

JUNE 1918 — No 149

Monthly

A Reference for Buyers

HITCHCOCK'S  
**MACHINE  
TOOL LIST**

Distributed Free to Machine Tool  
Users Everywhere in the United States and to  
Dealers in American Machinery Abroad

Published by  
**A. H. HITCHCOCK**  
1220-1235 Caxton Building  
Chicago

# RELIANCE

## Real shop and mill experience back of Type T motors

Right on the job in the big steel mills and machine shops where motors get the hardest kind of service we found the men who know why motors fail and where extra quality and strength are needed.

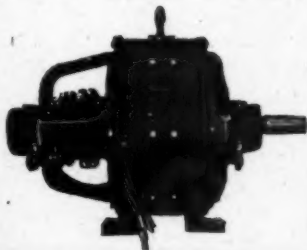
Thirty-five such men co-operated with us in designing a motor that would stand the wear and tear of their work.

Results have already proved that a motor built on this plan means longer and better motor service for you.

Get the whole story of Type T motors in Bulletin 2014.

**Reliance Electric &  
Engineering Company**  
1050 Ivanhoe Road, Cleveland, O.

Branch Sales Offices:  
New York Philadelphia Pittsburgh



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# NAMCO TAPS

## Automatic—Collapsing

**"No hole too deep"**—as the chaser diameter is the largest diameter on the tap. All operating mechanism is inside the tap body.

**Positive collapsing action** is guaranteed by an entirely new principle of releasing chasers. There's no drag of chasers or stripping of threads.

**Wide range of work** is possible as tap is made for right or left hand, and straight or pipe threads.

**Simplicity and strength of construction** make NAMCO Taps durable.



*Send sample or blue print for quotation  
or ask for Tap Catalog H.*

## THE NATIONAL ACME COMPANY

NEW ENGLAND PLANT  
WINDSOR, VT.

Cleveland, Ohio

CANADIAN SCREW PLANT  
MONTREAL, P. Q.

### *Branch Offices:*

NEW YORK BOSTON CHICAGO DETROIT ATLANTA SAN FRANCISCO  
WAREHOUSES—NEW YORK, CHICAGO With FOREIGN REPRESENTATIVES

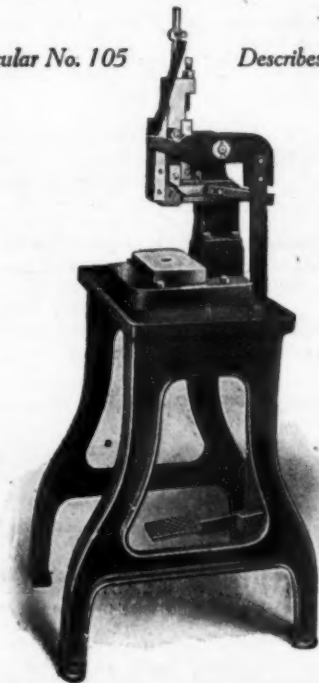
*Makers of Gridley Single and Multiple Spindle Auto-  
matics at Windsor, Vt., and Acme Automatics, Thread-  
ing Dies and Screw Machine Products at Cleveland, Ohio*

# Spring Foot Press No. 105

Uniformity of Blow    Vibrationless    Non-Fatiguing

*Circular No. 105*

*Describes It*

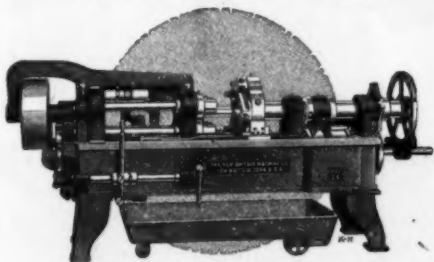


**The Taylor & Fenn Company**  
Hartford, Conn.



# One man does three to ten men's chucking work

That means a tremendous cut in labor costs of from 3-to-1 up to 10-to-1, an increased production to practically any desired limit, the solution of the labor problem on this class of work, and the release of skilled mechanics for other purposes.



**The "New Britain" Single-Head Automatic**

—enables one man to do as much work in the machining of one end of castings and forgings and in second-operation screw machine work, as from *three to five* men could do in any other way.

With one operator taking care of two machines, he will equal the production of *six to ten* men using any other method.

The "New Britain" Double-Head Automatic machines both ends at once, still further reducing costs and increasing production.

*The above is WHAT it does; glad to tell you HOW it does it,  
and to submit guaranteed production estimate  
from your samples or blueprints*

**The New Britain Machine Company**

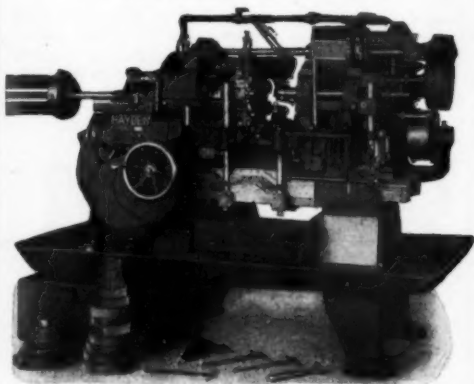
**Automatic  
Screw and Chucking  
Machines**



**New Britain,  
Connecticut,  
U.S.A.**

# The Cincinnati Automatic

**A Five-Spindle Screw Machine  
With 48 Superior Features**



Take the average high-grade automatic screw machine and make a distinct improvement upon 48 of its important features, and you will cover about every point that is vital to speed, accuracy and ease of control.

Our Catalog shows "48 Distinct Features of Superiority" embodied in the Cincinnati Automatic, every one of which is a real, practical improvement, designed for the purpose of securing a maximum production with a minimum expenditure of labor.

*The Catalog makes this clear. Will you send for it?*

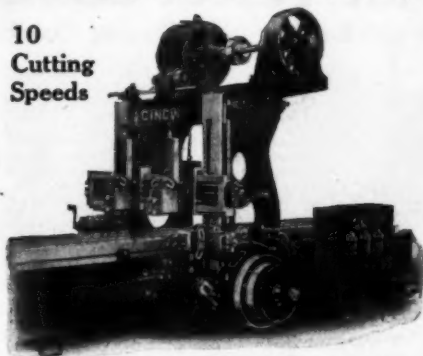
**Cincinnati Automatic Machine Co.**  
Oakley, Cincinnati, Ohio

# A Larger Production

## At Rock Bottom Planing Costs

Because with Cincinnati Motor Driven Planers you get the maximum cutting speed for the material you are planing.

10  
Cutting  
Speeds



**Cincinnati Non-Reversible Motor Driven Planer**

When the cutting speed of a planer is either too slow or too fast for the work it is doing, you are slowing down production and piling up costs; and the average planer is running either too slow or too fast nine-tenths of the time.

Cincinnati Non-Reversible Motor Driven Planers have cutting speeds of 25 to 50 feet and return speeds of 50 to 100 feet a minute. They may be operated at the right speed all the time, because any speed you need for steel, iron or brass, or for any kind of work, is instantly available.

*Does it pay? Let us show you.*

## **The Cincinnati Planer Co.**

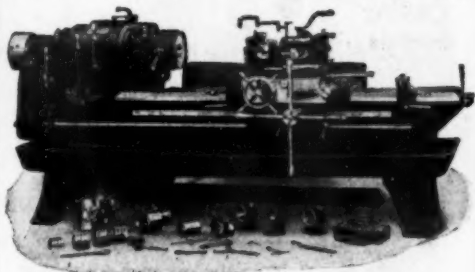
**Cincinnati, Ohio, U. S. A.**

**CINCINNATI-ACME**

**3¼ x 36-Inch  
Combination**

## **Flat Turret Lathe**

**3¼"x36" Bar Cap.    16" Chucking Capacity.**



### **With Equipment for Bar Work**

The Cincinnati-Acme stands pre-eminent as a large producer under all conditions, and is equally efficient on a wide range of either bar or chucking work.

It is the most rigid turret lathe made, designed to withstand the sudden and undue strains that may be thrown upon it by operators not thoroughly trained.

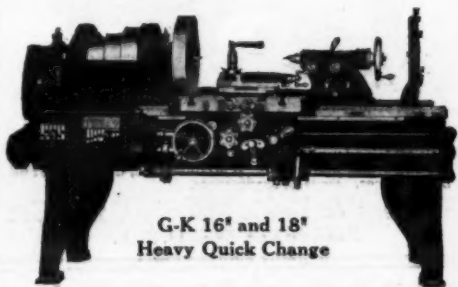
It is particularly profitable, therefore, just at this time, while you are striving for a big output with high wages and uncertain labor, because of its exceptional productive capacity; because of its simplicity and ease of operation; and because it is as nearly fool-proof and shock-proof as a machine of this kind can be made.

*You need it—now. Have you the Catalog?*

**The Acme Machine Tool Co.**  
**Cincinnati, Ohio, U. S. A.**

# G-K Engine Lathes

Will do that work of yours right,  
and do it on time, if it is within  
lathe possibilities



G-K 16" and 18"  
Heavy Quick Change

There is not a lathe made which will cover a wider range of usual and unusual work with greater convenience, speed and precision.

This has been the experience of G-K Lathe users, to whom we would like to refer you, and applies to our entire line of engine lathes from 16" to 30", of both the heavy quick change type and geared head single lever control type.

## G-K Betterments

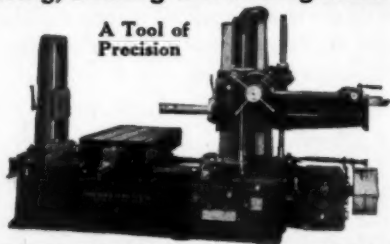
is the title of our Catalog, for the description of G-K Lathes is truly a description of practical betterments that make for the highest economies in production.

*We have a copy for you. Will you send for it?*

**The Greaves-Klusman Tool Co.**  
Cincinnati, Ohio, U. S. A.

## Giddings & Lewis (Fosdick Design) Boring, Drilling and Milling Machine

**A Tool of  
Precision**

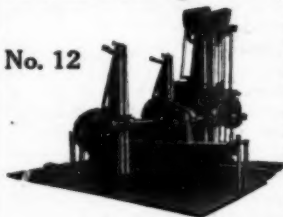


A self-contained machine of great power and rigidity, with direct drive and centralized control. It is convenient, dependable and a big producer. *Write for specifications.*

**Giddings & Lewis Manufacturing Co.**  
Fond du Lac, Wis., U. S. A.

## P. & H. Drilling and Boring Machine

**No. 12**



1. Rapid traverse in each direction can readily be manipulated by slight adjustments on the hand wheel.

2. The spindle speeds are obtained by quick change gears and variable speed motor for either A. C. or D. C. current resulting in the following speed variations:

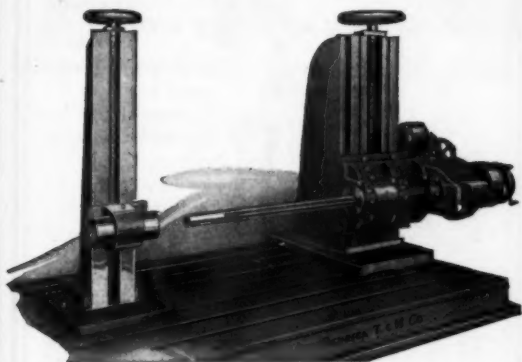
**A. C. Current, 12 to 542 R. P. M.**

**D. C. Current, 10 to 445 R. P. M.**

3. The four changes of feed available for each speed are made by the operator without leaving his position near front end of spindle.

**Pawling & Harnischfeger Company**  
Milwaukee, Wisconsin

# Winning The War



**is the paramount issue.**

The Pedrick Column Boring Machine is playing its part in ordnance plants, shipyards, steel mills, etc.

It's a husky boring machine of unusual capacity. Some of its capabilities are unique. For example, the bar travels or a cutterhead may travel along the bar.

Wouldn't you like to know more about it?

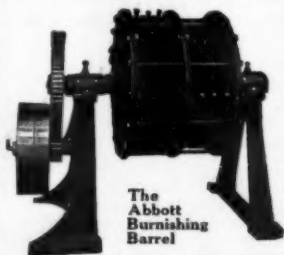
*Send for a Circular*

## **Pedrick Tool & Machine Co.**

3644 N. Lawrence St.,

Philadelphia, Pa.

**Why spend so much money  
and employ so many workmen**



**The  
Abbott  
Burnishing  
Barrel**

— in buffing small metal parts one at a time, when you can burnish by the bushel with the Abbott Carbonized Steel Ball process, which saves from 75 to 99 cents on the dollar and improves quality?

*Write for Booklet and send samples for burnishing*

**The Abbott Ball Company**  
Elmwood District, Hartford, Conn.

## **BALL AND ROLLER BEARINGS**

**All Types in Stock or to Order**

English (Inch) and Metric Dimensions

**BALL THRUST  
ROLLER THRUST  
ANNULAR (Ball Journal)**

**JOURNAL ROLLER  
TAPER ROLLER  
PRESSED STEEL**

**STEEL BALLS**

Sole Distributors for the U. S. of

**The Bowden Patent Wire Mechanism**  
Bowden Wire Ltd., London

**THE GWILLIAM COMPANY**

Engineers

**MECHANICAL SPECIALTIES**

**253 W. 58th St. (at Broadway), New York, N. Y.**

**Branch Office: 1314 Arch St., Philadelphia**



# SKF

The Edwin Harrington Sons & Company, Inc., of Philadelphia, recognize that SKF Ball Bearings give increased capacity and reliability for their drilling machines—that an SKF equipped machine can more readily be protected against abuse and neglect of the bearings. Lubrication is simplified. Speed and production increased. Self-aligning ball thrust bearings are preferred because they prevent binding strains when the machine is under load. Because they are made from highly tempered steel and accurately manufactured, they eliminate chatter and insure uniformly accurate work. Other SKF equipped Drilling machines and machine tools are described in Bulletin No. 25.

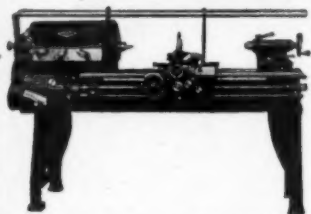
**SKF Ball Bearing Co.**  
**Hartford, Conn.**

343



## **This "Filsmith" has new features**

**And meets all modern requirements**



**14" Swing  
Q. C. Gear Box  
And 12-Speed  
Ball Bearing  
Geared Head**

But there's more to it than new features—it's a tried and proven machine, built with the utmost care of the best materials. Details on request.

**PHILIP SMITH MFG. CO., SIDNEY, O.**

## **ATLAS for the Heavy Work**

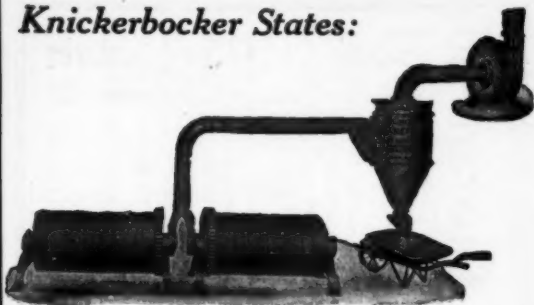


**Quick Change, Double Back Geared  
Made with 8, 10 and 12 ft. Beds, or  
longer made to order. 20 and 24" Swing.**

You naturally select a race horse for speed and a Percheron for a heavy draft, and by the same token Atlas is the logical lathe to use for the heavy task in your shop. It is built for the job—*write us and we'll tell you how well.*

**The Taylor Machine Co.,** **Cleveland, Ohio**

**Knickerbocker States:**



## Engineers of Big Plants

**Specify "Rarefieds"**



"We have a list of users ready to send you, and it proves the above statement. In all parts of the country shop experts have decided in favor of 'Rarefied' Dust Collectors, and some plants are now using 20 or more.

"It saves power—one user says 25 electric h. p. is now doing what formerly took 45 h. p. to do. Repairs are greatly reduced because the dust is collected before the air reaches the fan, thus preventing abrasion of fan parts. And they are thoroly efficient with all kinds of heavy, cutting dust."

*Let us send you a list of users and a copy of  
our interesting Booklet*

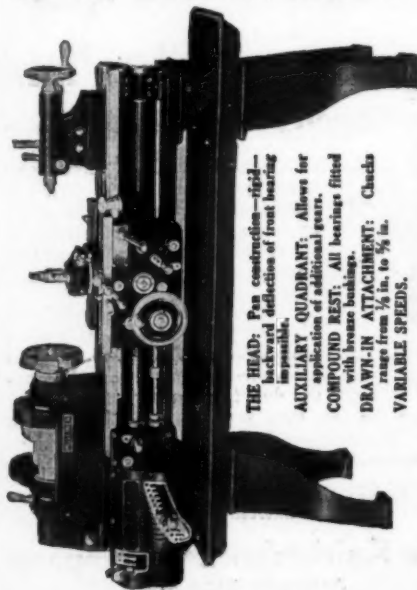
**The Knickerbocker Company**  
**Jackson, Michigan**

# Guaranteed Accuracy!

Mulliner Quick Change Lathes are guaranteed to bore and to turn true to within .001-in., when properly set up.

Only the finest materials and workmanship are used in constructing these lathes. Every Mulliner Lathe is tested to a standard which is way above ordinary requirements.

*Circulars giving details on request*



**THE HEAD:** Rigid construction—rigid—backward deflection of front bearing impossible.

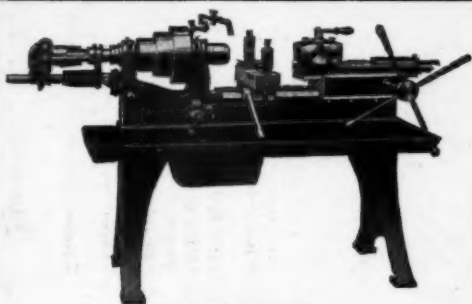
**AUXILIARY QUADRANT:** Allows for application of additional gears.

**COMPOUND REST:** All bearings fitted with bronze bushings.

**DRAW-IN ATTACHMENT:** Chucks range from  $\frac{1}{8}$  in. to  $\frac{3}{4}$  in.

**VARIABLE SPEEDS.**

**MULLINER-ENLUND TOOL CO., Inc., Syracuse, N. Y.**



**MODEL "D"**

## **Turret Lathes and Screw Machines**

**Now Ready for Delivery**

**Designed for Rapid Manufacturing of  
Parts Requiring Several Operations**

### **MADE IN FOUR SIZES:**

- No. 2 {  $1\frac{1}{16}$ " Wire Feed Capacity, Plain Head  
          {  $1\frac{1}{32}$ " Hole Through Spindle.
- No. 3 {  $1\frac{5}{16}$ " Wire Feed Capacity, Plain Head  
          {  $1\frac{1}{32}$ " Hole Through Spindle.
- No. 4 {  $1\frac{1}{2}$ " Wire Feed Capacity, Geared Head  
          {  $2\frac{1}{32}$ " Hole Through Spindle.
- No. 5 {  $1\frac{3}{4}$ " Wire Feed Capacity, Geared Head  
          {  $2\frac{1}{32}$ " Hole Through Spindle.

**With or Without Power Feed to Turret Slide.  
Mechanically Perfect and Fully Guaranteed.**

**Manufactured By**

**Smurr & Kamen Company**

**328-330 N. Albany Ave., Chicago, Ill.**

# "DALTON SIX"

For manufacturing small parts in quantity or for experimental work the "DALTON SIX" is indispensable.

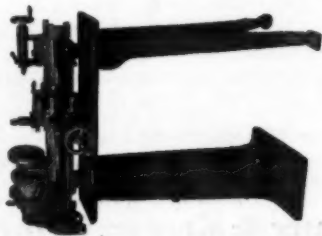
Can be furnished with Taper attachment, Turret attachment, Draw-in attachment and collets.

*Write for Bulletin*

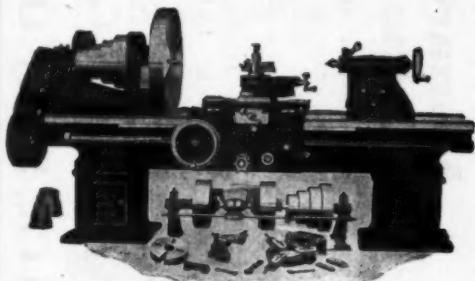
**Dalton Manufacturing Corp.**

1915 Park Ave., New York, U. S. A.

Cable Address "ALEDAL New York"



# South Bend Lathe



**24 in. x 10 ft. Screw Cutting Engine Lathe**

South Bend Lathes have been on the market twelve years. Dealers in every large city.

Swing Over Bed, Inches	Length of Bed, Feet	Dist. Btw. Centers, Inches	Hole Thru Spindle, Inches	Approx. Weight on Skids	Code	Price
13¼	5	32	1 1/8	1,000	Hasen	\$272
15¼	6	40	1 1/8	1,425	Jadin	352
16¼	6	36	1 1/8	1,700	Juddo	432
18¼	8	57	1 1/8	1,950	Kell	566
21¼	10	75	1 1/8	3,300	Penti	841
24¼	12	95	1 1/8	4,420	Polly	1,218

Made with straight or gap bed. Price includes all the equipment shown in illustration

Many large, busy plants are increasing their production by using South Bend Lathes on duplicate work.

*Send for free Catalog illustrating and describing entire line.*

## South Bend Lathe Works

Established 1906

South Bend, Ind.

East End

# Monarch Lathes

give universal satisfaction to the user. They have been doing this for years, and this accounts for the ever increasing demand for **Monarch Lathes.** Built in four sizes and in all styles and with any attachments desired.

*Sold by a leading Machinery Dealer  
in every machinery center.*

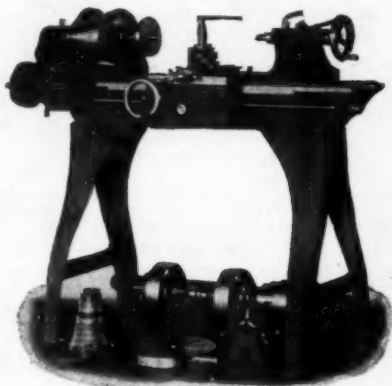


## The Monarch Machine Tool Co., Sidney, Ohio



# The 11" "Worcester"

A Lathe of Quality



We specialize on 11", 13" and 16" Sizes  
Cone or geared head, pulley or motor drive

The "Worcester" Lathe is as nearly perfect, in both design and construction, as we know how to make it.

In design it is both complete and simple. There are no complications to confuse the operator.

In assembling the "Worcester" no pains are spared to make it right. All cylindrical surfaces are ground, all flat wearing surfaces are scraped to plates, and all parts are thoroughly tested to eliminate the slightest flaw.

*May we quote on the size you need?*

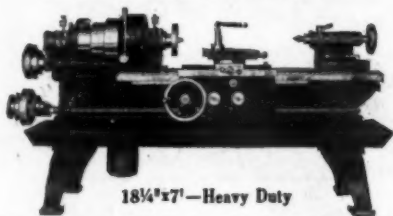
**Worcester Lathe Company**

68 Prescott St.,

Worcester, Mass.

## FULTON Gives Solid Service

An Efficient Lathe Without Frills



18 1/4"x7"—Heavy Duty

Mr. Manufacturer, isn't most of your lathe work plain turning, boring and facing? That's why the Fulton could save you money—you don't invest in a lot of useless expensive extras.

*Write for details of this economy tool.*

**Fulton Machine Tool Co.,** 1438 Bryan Pl., CHICAGO, ILL.

## A Powerful 26" Lathe

A. C. Motor Driven



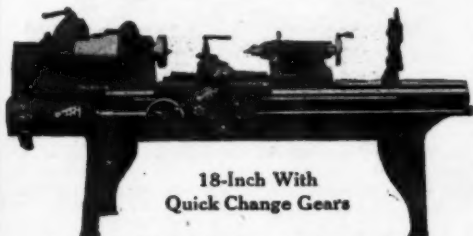
Also 20", 32" & 36"

A tool of great power and precision, that is simple and convenient in operation, for a big output of accurate work. May we send you the description?

**WICKES BROTHERS, Saginaw, Mich.**

# The "Chard"

A lathe of super-quality for the man who wants the best there is



18-Inch With  
Quick Change Gears

16", 18", 20", 24" and 28" semi and quick change with 4-step back gear and 3-step double back gear

There is no mystery about the super-excellence of the "Chard" as a practical shop tool. During our long experience of over 35 years in building high-grade lathes, an ideal lathe gradually has taken shape in our mind—something a little better here, a little stronger there, with various parts simplified, and all so accurate as to be interchangeable. The result is the super-quality "Chard." It has made good wherever used, and we want particular users to know all about it.

*May we send you the complete specifications?*

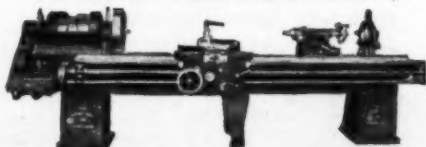
**Chard Lathe Company**  
New Castle, Ind.

#### **DOMESTIC DISTRIBUTORS**

THE F. O. STALLMAN SUPPLY CO., San Francisco, Cal.  
VONNEGUT MACHINERY CO., Indianapolis, Ind.  
ENGLISH & MILLER MACHINERY CO., Detroit, Mich.  
THE GARVIN MACHINE CO., New York City.  
OGDEN R. ADAMS, Rochester, N. Y.  
THE W. M. PATTISON SUPPLY CO., Cleveland, Ohio.  
J. S. MILLER MACHINERY CO., Pittsburgh, Pa.  
MONARCH MACHINERY CO., Philadelphia, Pa.

## **"Sidneys" Back the "Buddies"**

**They are High Duty Lathes**

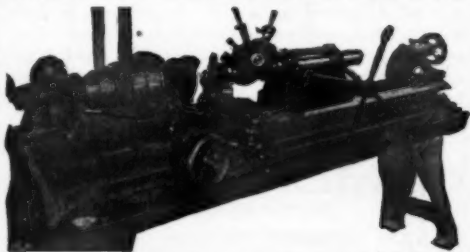


We wish you could see a 15, 17 or 19-inch Sidney at work, because actions speak louder than words. They are on the job in many a shop, doing their bit of the big job behind the lines, and helping to make it possible for the "Buddies" to keep going over the top "Somewhere in France."

*Write us about your lathe requirements.*

**THE SIDNEY TOOL CO., SIDNEY, OHIO**

## **Make Your Lathes More Efficient**

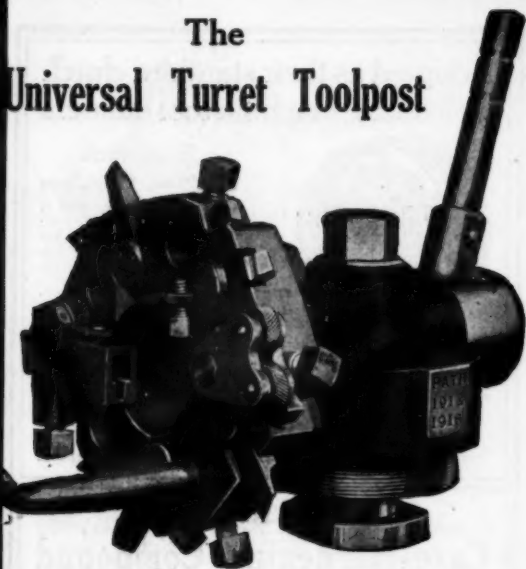


**New Superior Turret Heads Increase Production**

*Send for details*

**Jones Superior Machine Co.**  
1258-72 W. North Ave., Chicago, Ill.

# The Universal Turret Toolpost



**Fits Any Lathe—No Changing of  
Tools—They Are Always in the  
Toolpost Ready for Work**

The Toolpost is made of the very best drop  
forged steel. The workmanship is guaranteed to  
be of the highest grade.

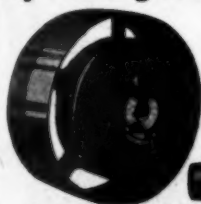
## **Magna Machine Company**

(Incorporated)

**624-626 Driggs Ave., Brooklyn, N. Y.**

Also Builders of High-Grade Special Machinery, Jigs, Tools, Gauges, Fixtures

Adopted as their standard clutch  
by leading machine tool builders



Enclosed Type, Self-Oiling

### Edgemont Friction Clutches

—have been used for years as their standard clutch by the leading manufacturers of lathes, planers, shapers, drilling machines, boring mills, milling machines, screw machines, gear cutters, etc., etc. —names furnished on request. Don't you want your machines equipped with the clutch of proven reliability?

*Write for Catalog and names of prominent users*

## The Edgemont Machine Co.

Dayton, Ohio

Special Clutches and Transmission Machinery for all purposes

### The Reliable B-G Case-Hardening Compound Is Better and Cheaper

It produces steel that is file-hard, well penetrated, clean and without scale. Gives an excellent color on finished work.

It is of standard quality and inexpensive. No new process required. Use it exactly the same as cyanide, but *without* the deadly fumes.

There is no result obtainable with cyanide that cannot be produced with B-G Compound, with greater satisfaction and at less cost.

*You should know more about B-G. Let us tell you.*

**Bell & Gossett Co.**  
613 West 30th St., Chicago, Illinois



(No. 3 Peerless. All Gears are Covered).

## **The Big Demand For Bignall & Keeler Pipe Threading Machines Keeps Up**

Orders keep coming in at a pretty lively rate, and you will do well to anticipate your wants as much as possible.

Our 17 styles and sizes—for pipe from  $\frac{1}{4}$  to 18 in. diameter—enable you to choose the machine best adapted to your needs.

The B. & K. line is strictly modern and up-to-date. They are equipped with a number of improvements that put bed-rock economy within your reach.

*We shall be glad to send Catalog  
and go into details*

**Bignall & Keeler Machine Works**  
Edwardsville, Ill.

# Immediate Shipment

From Toledo Stock

## New General Electric Alternating Current Motors

A few of the items in our Stock:  
220 or 440 Volt



### 60 CYCLE-3 PHASE

3-	50 h. p.-	Type KT-	900 r. p. m.
1-	100 h. p.-	" "	720 r. p. m.
1-	150 h. p.-	" "	720 r. p. m.

### 25 CYCLE-3 PHASE

2-	100 h. p.-	Type KT-	750 r. p. m.
1-	100 h. p.-	" "	500 r. p. m.
1-	75 h. p.-	Form M	750 r. p. m., Slip Ring
1-	100 h. p.-	" "	750 r. p. m. " "

Write for Nagel Motor List No. 24

 **THE W.G. NAGEL ELECTRIC CO.**   
TOLEDO, OHIO.

# Pattern Shop Machinery

Special Prices if you refer to this ad.



### Band Saws

Chicago No. 00	27 in. Wheels
" No. 0	32 " "
" No. 1	36 " "



### Saw Tables

Chicago No. 5	Stationary Table
" No. 9	Tilting Table
" No. 10	" "

Boring attachment if wanted.



### Jointers

8 in., 5 and 6 ft. tables and guard.  
12, 16, 20, 24 and 30 in., 7 ft. tables  
and guard.

Trimmers, Lathes, Core Box Tools, etc.

Ask for full descriptions

## Chicago Machinery Exchange

1211-1227 Washington Boulevard, Chicago





# Terrell's Steel Lockers

## A Modern Convenience and Economy

When you build brick walls, steel roofs and concrete floors, don't fill the space which these inclose with combustible wooden fixtures.

Terrell's permanent steel lockers, bins and shelving show the same economy as permanent buildings and good tools—they give better satisfaction and more service in every way. They are steel assets, not wooden liabilities.

*Prices, details, plans, expert planning service, information—all at your service without obligating you to buy. That's up to you.*

## Terrell's Equipment Co.

Hall & Division Sts.,

Grand Rapids, Mich.



## Nestor Vise

### Here are its Features:

Work is gripped almost instantaneously—moves from maximum to minimum with quick action sliding jaw.

For size and weight an extraordinary gripping range is provided.

Hole can be drilled at right angles without taking work from vise.

Special provision makes it impossible for jaws to cock up. Immediate delivery.

*Write for particulars, sizes and prices*

**Nestor Manufacturing Co., Inc.**  
40 W. 13th St., New York City

## Barker Wrenchless Chuck

### Saves Time Between Cuts

Speed of an air chuck,  
at far less cost, and it's  
simpler and better



It has the quick action of the air chuck, without its high cost of installation, pumping of air and maintenance of air line. It has a decided advantage in the fact that the jaws are under direct control of the hand lever, so that the operator may regulate the pressure at will, from a slight grip to one that is unshakeable. May also be used for bar work to equally good advantage.

*A wonderful time saver. Write for description.*

**Thomas Elevator Company**  
22 S. Hoyne Ave., Chicago, U. S. A.

## Modern Methods for Quick Work



### **A DAVIS KEYSEATER**

Motor driven,  
will save you  
valuable space  
as well as in-  
crease your pro-  
duction. It is  
an investment  
you can't afford  
to overlook.

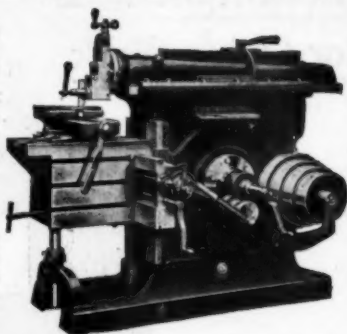
*Write for Circular*

**DAVIS MACHINE TOOL CO., Inc.**  
**ROCHESTER, N. Y., U. S. A.**

# SHAPERS

12", 14", 16"  
Plain Crank,  
16", 20", 25"  
B. G. Crank,  
either Cone  
Driven or  
through  
Speed Box.

24", 28", 32"  
Geared  
Shapers of  
the Belt Shift  
type.



**The Smith & Mills Co.** Station B.,  
Cincinnati, O., U.S.A.

## Shapers

The best medium  
priced Shaper on  
the market.

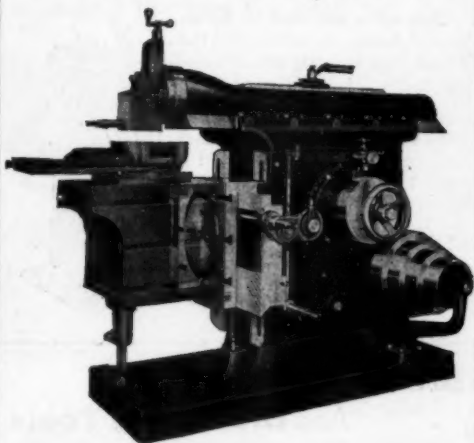
Built in 16", 18",  
and 24" sizes, all  
back geared crank  
machines.

A few for early  
delivery.



**The Osborne & Sexton Mchy. Co.**  
Columbus, Ohio

# Milwaukee Shapers



**MILWAUKEE Back-Geared  
Crank Shapers are built in  
16-in., 20-in. and 24-in. sizes.**

**UNEXCELLED in Rigidity,  
Accuracy, Power, Production  
and Simplicity.**

## **Milwaukee Shaper Co.**

**1144-1146-1148 Holton St., 518 Prairie St.,  
Milwaukee, Wisconsin**

## Rhodes Shapers Accomplish A Wide Range of Accurate Machining

There isn't a better tool for the economical shaping and slotting of all kinds of light work, including dies, tools, models, etc.

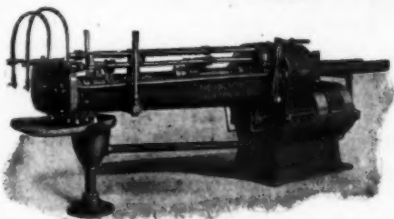
They have all the essential elements of the larger and more expensive machines—hence their great efficiency. Built vertical, horizontal, and a combination of the two.

*Small in size, but big in economy and capacity.  
Write for particulars.*

**Rhodes Mfg. Co.**  
Hartford, Conn.



## Broaching Machines And Broaching Tools

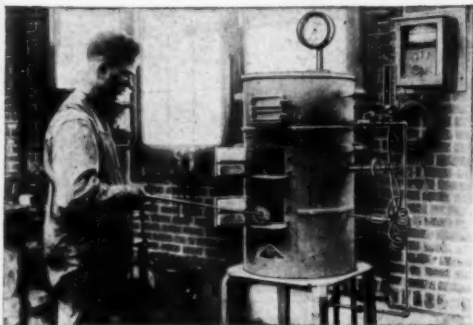


### Our Famous Double Machine

The Most Complete Line In The World. We make our machines in 5 sizes and 11 types. *Send for particulars.*

**THE J. N. LAPOINTE CO.,** - - New London, Conn.

**High-speed and carbon steel tools  
treated with greater certainty  
with half the cost for fuel**



### **The "TRIAD"—a 3-in-1 Furnace**

Three compartments, for pre-heating, high-heating and drawing the temper.

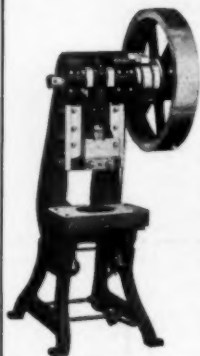
Heats quickly and evenly to desired temperatures. Costs less to buy and to operate than separate units. Removes the danger of pitting or scaling from oxidation, so often caused by passing tools from one furnace to another.

Requires only one oil or gas burner. Takes but two feet square of floor space. May be used in tool room without discomfort to the workmen.

*A big improvement and a decided economy  
Better write for the literature*

**W. R. BENNETT CO., Elmwood, Conn.**

# Here Is A Press



With Plenty of Steam  
Back of THE PUNCH

HIGH DUTY  
**ROCKFORD**  
PUNCH PRESSES

Made in straight side and  
inclinable types. Their great  
power backed by rigid design  
enable them to do the work  
you demand and stand up to it.

*Write For Catalog*

**Rockford Iron Works**  
Rockford, Ill.

## Partridge Light Punch Press

For making novelties from sheet  
metal, including such operations as  
stamping, blanking, piercing, bending,  
forming, perforating, embossing, shear-  
ing and wire cutting. Has exceptional  
strength for its size.

Carefully adjusted to secure ac-  
curate working of the dies, and to  
prevent shearing. Pendulum action  
of lever gives a stroke of maximum  
power without tiring operator. Work-  
manship and material the best.

*Write me for the interesting price*

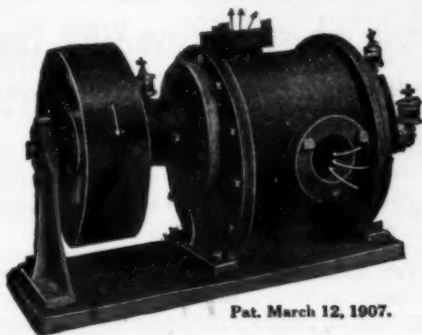


**E. O. PARTRIDGE, 2041-2049 CHICAGO**

Also Bench, Column & Cabinet Grinders, Polishing Lathes, Light Punch  
Presses, Hollow Mills, Countershafts, Chuck Arbors and Saw Mandrels.



# Air Pressure Without "a Drawback"



Pat. March 12, 1907.

Noise-  
Gear-  
Trouble- **Less**

**POSITIVE BLOWER**

Will outlast two of any other  
blower built—"bar none"—

**IT'S THE BETTER BLOWER**

Built in various sizes  
suitable for all duties

**Garden City Fan Co.**

Sole Manufacturers.

Established 1879.

**McCormick Bldg., Chicago, Ill.**

*Send for Bulletin No. 29-BH*

# ELECTRIC EUCLID HOISTS

## Let OUR Engineers Save YOUR Time

It is possible that you realize the need of modern material handling equipment but cannot spare the time or men to work out the details.

Our engineers are constantly solving these difficulties and helping manufacturers reduce expenses.

Furthermore, this service is absolutely free.

Will you take advantage of it?

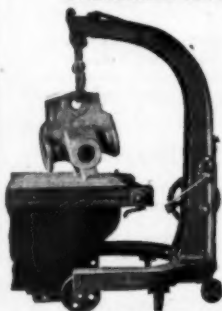
**The Euclid Crane & Hoist Co.**

Dept. C

EUCLID, OHIO, U. S. A.

## The handiest-tool-in-the-shop

Is the enviable title earned by Canton Cranes



When you realize that instead of 6 to 10 men tugging, lifting and lugging heavy machinery and castings, one

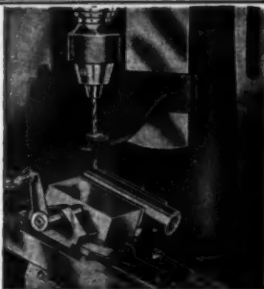
### Canton Crane

will do the same work in perfect safety, you will order one of our many sizes for your own use.

*Booklet E-8 tells all  
about them*

**CANTON FOUNDRY & MCHE. CO., Canton, O.**

**Knights  
have  
greater  
convenience**



## **Knight Milling and Drilling Machines**

not only enable you to save time on difficult machining, but they make it possible for your men to take care of a wider range of work. With it you can mill die blocks and beveled ways; center shafts; use as drill guide; mill out metal core boxes and oval depressions in die plates; make forming tools; do slotting work, etc. In adaptability they are in a class by themselves.

**W. B. Knight Machinery Co.**

**3920 W. Pine Blvd., St. Louis, Mo.**

*Information gladly sent  
you. The three sizes  
weigh 600, 1200 and  
2300 lbs. respectively.*



## Armstrong Drop Forged Wrenches

Superior Design and Quality



All  
Kinds



All  
Sizes

*Catalog free*



**Armstrong Bros. Tool Co.**

"The Tool Holder People"

308 N. Francisco Ave., Chicago, U. S. A.



Lathe Users and Lathe Builders will equip. with  
**Lovejoy Metal Cutting Tools**  
because of their perfect rigidity, long life, and producing capacity.

*You would be interested in our Catalogue*

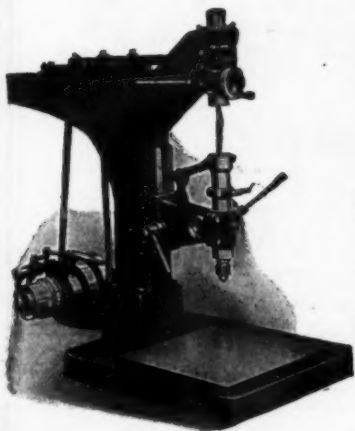
**Lovejoy Tool Company, Inc.**

*Metal Cutting Tools*

Springfield,

Vermont, U. S. A.

# THE *Avey* BALL BEARING DRILLING MACHINES



Hundreds  
of  
Shops  
are  
Modernizing  
their  
Drilling  
Departments

---

## Enormous Increase In Output

in drilling small holes may be obtained by  
using the No.  $\frac{1}{2}$  machine above shown

## Spindle Speeds Up To 12000 R.P.M.

*We have other sizes and types including  
automatics to enable specializing on any job*

**The Cincinnati Pulley Mchy. Co., Cincinnati**

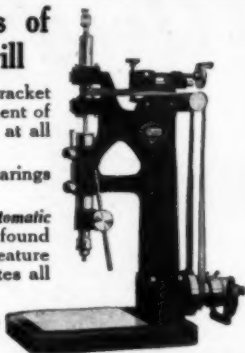
## Special features of the Demco Drill

The adjustable quill bracket insures a perfect alignment of spindle in any position at all times.

Norma annular ball bearings eliminate friction.

The belt adjuster and *automatic belt stretch compensator* is found in "Demcos" only—a feature that practically eliminates all vibration.

*Write for circular of this  
exceptionally smooth  
running machine*



**The DeMooy Machine Company**  
706 Frankfort St., N. W.      Cleveland, Ohio

## Bench Drills

with 1 to 4 Spindles  
 $\frac{1}{2}$ " Capacity.

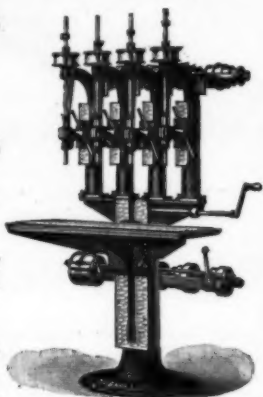
## Floor Drills

1 to 7 Spindles  
 $\frac{1}{2}$ " to  $\frac{3}{4}$ " Capacity.

Power feed on as many  
spindles as you want.

## Francis Reed Co.

43 Hammond St.,  
WORCESTER, MASS.





## Silver's 25-in. Drilling Machine

This rugged drill, with an experience of 40 years behind it, is designed for large production and for maintaining accuracy under the hardest usage.

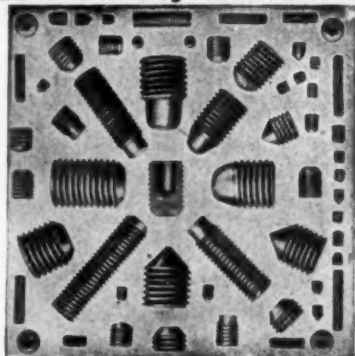
It has eight spindle speeds; six positive geared feeds; two quick return levers—one available for hand drilling in light work; graduated automatic stop to down feed; sensitive counterbalance for spindle and sliding head, and a design and construction throughout which insures the easy handling of both the machine and the material.

*Write for specifications of our 20-in. and 25-in. drills*

**The Silver Mfg. Co.,** <sup>295</sup> Broadway **Salem, Ohio**

## Allen Safety Set Screws

**Absolute Safety—30% Stronger**



**Uniform Threads—Clean Socket Holes**

*Write for folder and free samples for testing*

**ALLEN MFG. CO., - Hartford, Conn.**



## "Wear-Ever" Tap Chuck

**Holds the tap and drives it true, regardless of variation in size of shank, without screw adjustment**

**This one-piece tap chuck is sold at a low price and outlasts several friction chucks.**

**It adjusts automatically to any variation in shank, which saves time, and as the tap always runs true, it saves tap breakage.**

**It saves in every way—in cost, renewals, time and taps. No screws to adjust. Always a positive drive.**

*Write for description and the low price*

**Scully-Jones & Co.**

**Room 555 Railway Exchange Bldg.,**

**CHICAGO**





After Eight  
Months



Here is an opinion based on eight months' constant use during which THE SIPP Quick-Change-Speed Drill proved its superiority.

## FEATURES

**Quick  
Change Speed**  
Change in 2 seconds

**Most  
Efficient Drive**  
No belt troubles

**Safety First**  
All parts protected

**Heaviest  
Drill Made**  
Yet very sensitive

**All Ball Bearings**

*"Relative to our 2-spindle Sipp Quick-Change-Speed Drill, wish to advise that we have been operating this machine every day for the past six or eight months and it has proven itself to be all that we could ask in a drill press of this nature. It is perfectly satisfactory in every way and if we were buying any more machines for this class of work, we honestly believe it would be a Sipp."*

*Durston Gear Co.,  
Syracuse, N. Y.*

See our ad in the next issue for further pointers on THE SIPP.

**The Sipp Machine Co.**  
**Keen Street, Paterson, N. J.**

## **"Fenn" High Speed Sensitive**

**15,000 R. P. M.—SKF Ball Bearings**



For very sensitive drilling.

Note the simple and effective method of feeding, with lever connecting direct to the spindle sleeve.

A proper counterbalance permits operator to know just what pressure he puts on point of drill.

Carefully built for speed, accuracy and durability.

*Write for specifications*

**FENN MANUFACTURING CO.,**

**Hartford, Conn.**

Cable Address "Fenn." West. Union Code  
W. L. Fenn. W. A. Fenn.

## **Winterhoff Motor Driven 10½-In. High-Speed Sensitive Bench Drill**

**400 to 2400 R. P. M.**

For the tool room and large production manufacturing.

Spindle has ball thrust bearings, is counterweighted and adjustable for wear and end play. Bronze bearings and ring gilers. Belt or motor driven. Can furnish a rigid stand with large drawers.

*Write for description  
and moderate price*



**Winterhoff Tool & Machine Co.,**

**Elkhart  
Indiana**



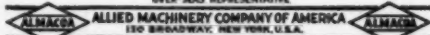
The Picture  
shows one  
of our  
**252**  
**Varieties**  
with  
1 to 8  
Spindles  
for  $\frac{3}{4}$ "  
Drills and  
Smaller

Henry & Wright Drilling Machines have exclusive features that are real improvements. Their gearless power transmission alone, with frictionless bearings, has effected a revolution in drilling efficiency. The new Catalog describes many other features of distinctive merit, and contains our highly valuable Speed and Feed Chart.

*The Catalog will be sent free upon request*

**The Henry & Wright Mfg. Co.**  
706 Windsor St., Hartford, Conn.

OVER-SEAS REPRESENTATIVE



*Principal Foreign Offices: Paris, Turin, Zurich, Barcelona*



## Kelly PRODUCTION Tools

for Cylinders,  
Crank Cases,  
Connecting Rods,  
Auto Parts, Etc.

We Make  
**DELIVERIES**  
in 1 to 10 Days

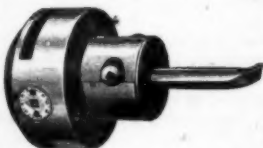
They  
**"ADJUST"**  
Write for Catalog G-H

TRANSMISSION CASE TOOLS (13 OPERATIONS)  
FOR MOLINE FLOW COMPANY  
J. M. DAVIS, GENERAL SUPERINTENDENT THE KELLY REAMER CO.

**THE KELLY REAMER CO., CLEVELAND, OHIO, U. S. A.**

C. W. Burton, Griffiths & Co., London, English Agents.  
Burton Fils, Paris, French Agts. 40 Domestic Agencies.

## Fast, Accurate Boring With Casler Offset Boring Heads



It's a compact, rigid,  
handy tool for boring holes  
to size in jigs, tools, fixtures,  
or any irregular shaped  
pieces at a big saving in time.

It enables you to use  
the vertical and horizontal  
adjustments provided on  
the machine. Simply clamp  
the tool or fixture on the milling machine table, and the Casler  
Offset Boring Head on the spindle. Is unequalled for enlarging  
and recessing holes, or for truing up inaccurately bored holes.  
The micrometer adjustment of the offset is graduated to .001".

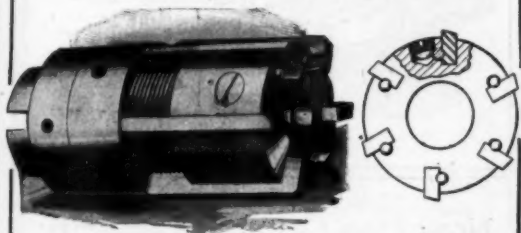
*Styles and sizes to meet practically all requirements  
are shown in Catalog C. Write for your copy today.*

**MARVIN & CASLER CO., Canastota, N. Y.**



# ANNOUNCING The SUPER Reamer

The crowning achievement of many years' experience in the manufacture of high grade adjustable reamers.



Large, accurate adjustment.

Blades locked in position by a positive, powerful, double-locking principle that is unequalled for simplicity and strength.

Blades are moved forward to increase reamer diameter instead of backward as with other reamers.

High speed blades. All styles and sizes from 15-16" up.

**The McCrosky Reamer Co.**  
Meadville, Pa., U. S. A.





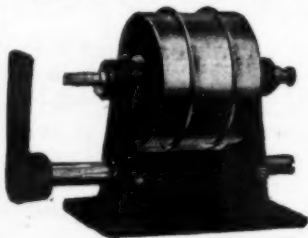
## Burke Quality Excels on Fine Points

Machines of  
**Burke Quality**  
are never built  
with any name  
cast on the  
frame but our  
own—

**BURKE  
CONNEAUT  
U. S. A.**

**For Sale Everywhere**

## This Tapping Machine Now Has Greater Capacity



**Burke's  
No. "D" Taps  
5/8" Holes  
in  
Horseshoe  
Steel**

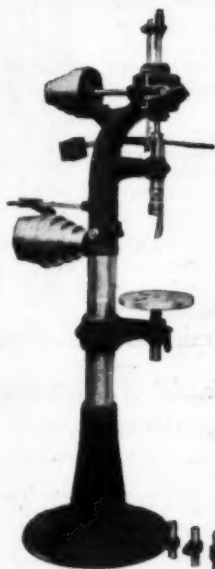
**BUILT** throughout with exceptional care, our several sizes give service in proportion. Accurate, rapid and convenient, they give solid satisfaction. No. "D" sells for \$50.

*Send for details today*

**The Burke Machine Tool Co.,** **Conneaut, Ohio**

# Automatic Tapper and Drill

That's fast, fool-proof and accurate



Patents Allowed and Pending.

In these days when skilled help is not always obtainable, it is fortunate that a machine like the

**"Cinti" 12-Inch** is within your reach—for it is as nearly fool-proof as any tool of this kind can be made.

Tom, Dick or Harry can do accurate work with the

**"Cinti" 12-Inch** without any danger of stripping threads or breaking taps.

The clutch and reversing mechanism can be set to run tap the desired depth, to reverse and to stop the spindle automatically.

*Up-to-date in every particular—best of materials used throughout. Let us mail you complete specifications so you can judge.*

**W. H. Simmons & Company**

208-12 Lawrence St., Cincinnati, Ohio

## Nicholson Expanding Mandrels



### *Back up your Man-Power*

A set of nine Nicholson Expanding Mandrels saves from one to ten minutes on every piece machined on lathe, miller or slotter.

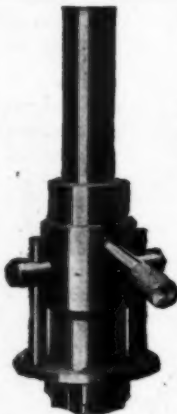
Affords an instant fit for any size, round or square hole between one and seven inches. Quick to insert, quick to remove.

Prove it in your factory.

*We'll loan you one for 30 days.*

*Write for it now.*

W. H. NICHOLSON & CO.  
117 Oregon St., Wilkes-Barre, Pa.



## Greater Facilities

### Guarantee Promptness

A larger factory and much new equipment have enabled us to keep up with our orders for Murchey Chasers. The use of Murchey Tools will enable you to increase your output.

### Murchey Collapsing Taps and Self-Opening Dies

have great speed, and produce accurate, uniform threads. Superior construction, ease of adjustment and certain improvements explain their excellence.

*We solicit an early tryout*

Murchey Machine & Tool Co.  
58 Porter St., Detroit, Mich.



**Use-Em-Up and Standard Type**

# **Drill Sockets**



**Use-Em-Up Type**

**All Kinds  
All Sizes**



**Special  
Tools Made  
To Order**



**Standard Type**

## **The Collis Company**

**Clinton, Iowa**



## **"Buhr" Drill Heads**

**Adjustable and Fixed Center**

**All-Ball-Bearing**

Adjustable from 2 to 12  
spindles.

Fixed center, any number  
of spindles.

We guarantee our Heads  
to stand up to capacity.

**Nelson-Blanck Mfg. Company**  
Detroit, Mich.

## **Sellew Adjustable Drill Heads**



save time be-  
cause you can  
drill three holes  
at a time instead  
of one.

**Special Heads**  
made to suit your  
needs.

*Writing us for information  
incurs no obligation. Let's  
hear from you.*



**Sellew Machine Tool Company**  
Pawtucket, R. I.

# The "Aurora"—21" to 36"

## The Drill With the Pull

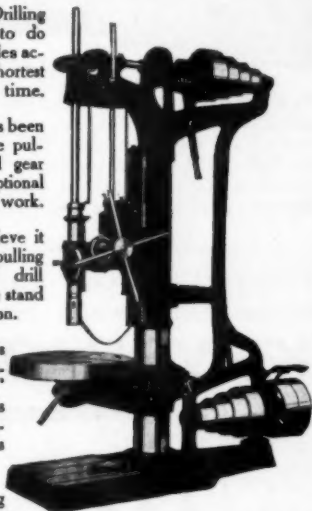
The Aurora Drilling Machine is built to do things—to drill holes accurately in the shortest possible space of time.

To that end it has been designed with large pulley diameters and gear ratios that give exceptional efficiency in actual work.

In fact, we believe it has the greatest pulling capacity of any drill made. Nor do we stand alone in that opinion.

In the details of its design and construction the "Aurora" is unexcelled. It is heavy without being clumsy, and is very convenient.

The table bearing is of extra size, which prevents its tilting if the operator forgets to clamp it. Feed gears are of special semi-steel. Worm wheel drops automatically, giving a positive release. Tapping attachment, compound table, drill lubricating outfit and motor drive, if desired.



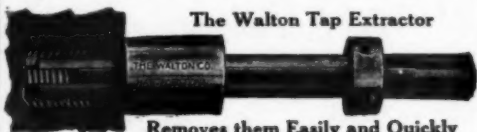
*Write for description and the moderate price*

## The Aurora Tool Works

Aurora, Indiana, U. S. A.

## Wasting Time on Broken Taps?

**The Walton Tap Extractor**



**Removes them Easily and Quickly**

It's an inexpensive little tool that enables you to save a good deal of your high-priced machinist's time. The four special crucible steel prongs or fingers fit into the flutes, and when a tap breaks at or below the surface it can be backed out without injury to the threads. Pays for itself in a very short time.

*Write for folder—or 60 days' free trial*

**THE WALTON CO., Hartford, Conn.**

## KEYSEATS

**That**

**FIT**

**Are Milled With This  
Internal Keyseater**

*Get Circular O*

**National Machine Tool Co.**

**2266 Spring Grove Ave.,**

**Cincinnati, O.**



# Power Drills of Big Capacity

## Canedy-Otto 20" Improved Models

They appeal strongly to the practical man. High-grade throughout, with all the graduated and automatic features of the more expensive machines.

The bearings in these new drills are of the best babbitt metal, with *hydraulically pressed Graphite Cones, which increase the life of the bearings from 300 to 400%.*

The gears are cut on automatic machines, which guarantees accuracy and smooth running for drilling holes up to 1½". Equipped, if desired, with a powerful direct-connected motor, all-spur-gear drive; also new improved tapping attachment.

*Both quality and price will appeal to you  
Let us mail you complete details*

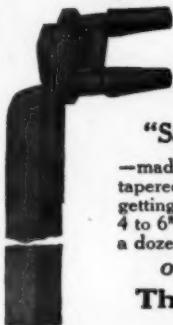
**Canedy-Otto Mfg. Company**  
**Chicago Heights, Ill.**

Manufacturers of Forges, Blowers, Drills, Lathes and Grinders.



## Smashing Men Is Bad Business

**"Safety First" Belt Sticks Safeguard Men**



Putting belts on moving pulleys "any old way" is always risky, and proper precautions should be taken. For this purpose there is nothing better than

**"Safety First" Belt Sticks**

—made with three rollers, two of them tapered, so there is no chance of the hook getting caught. Two sizes, 1 to 4" and 4 to 6", at one price, \$1.25 each or \$12.00 a dozen.

*Order a few on approval—today*

**The Ready Tool Co.**  
Bridgeport, Conn.

**It holds several tons of bar stock  
in a fourth the space, nicely assorted**



You simply cannot work to the best advantage unless there is "a place for everything, and everything in its place" throughout your entire plant.

**"The Handiest Rack"**

provides a place for your pipe, shafting and bars, where they can be properly assorted and counted, and handled on or off without end hauling. It provides neat, safe, convenient, compact storage for unwieldy stock.

*Say the word and we'll ship on trial*

**Wm. S. Yohe Supply Co.**  
232 Second St., S. E., Canton, Ohio

# Tucker's Safety First

## Oil Hole Covers

Require but one hand to pump in the oil. Adapted to all kinds of mechanism having oil holes leading to a bearing, and locate the parts to be lubricated.

*Send for Catalogue  
Oil Hole Covers No. 5*



Style G, Closed



Style G, Open

Style E



Style C



Style F, Drive



Style A



Style B



Style D, Open



Style D, Closed



Rotary Head

**W.C. & F.C. TUCKER, Hartford, Conn.**

# Manhattan Surface Grinder

**Massive—Rigid—Efficient**



So massive and rigid that there is no vibration. Built throughout for power, accuracy, convenience and quiet efficiency.

Nearly every detail shows a practical improvement. It gives clearance where most needed. Both dials are graduated. The construction of spindle, with over-size phosphor bronze bearings, permits very heavy cuts. The generous table is surface ground with its own wheel.

**A tool out of the ordinary.**

*May we send specifications?  
You will like them.*

**Manhattan Machine & Tool Works**  
Dept. A., Grand Rapids, Mich.

# The Strong-Hold File Handle

**The One That Stays Put**



Ordinary file handles are a nuisance. They split, the file works loose, and a man spends more time trying to make them hold than they are worth. The Strong-Hold handle cannot split; therefore it holds the file firmly, and keeps on holding it. A big thing for the men who use files, and a bigger thing for the men who pay them for doing it.

*Let us tell you about it*

**The Strong-Hold Mfg. Co.**  
307 Arch St., Philadelphia, Pa.



# **Milling, Boring, Grinding, Etc.**

**At Various Angles Without Resetting**



## **Universal Angle Plate—8"x10" Worm Adjusting**

This modern machine shop accessory can be used on any type of machine tool. For the repair shop, it is invaluable. In conjunction with any plain grinding or milling machine, they become practically universal. By its aid tapers can be ground whether round or flat and several angles may be planed, shaped or milled on one piece with accuracy. For the die sinker, it is the most convenient appliance that has been brought out for years. By its use you will enhance your reputation for accuracy and save dollars for yourself and customer.

*Write for the description and price*

**Boston Scale & Machine Co.**

**100 Ruggles St.,**

**Roxbury, Mass.**

# **"STERLING" GRINDERS**

## **Universal Tool and Reamer Grinder**

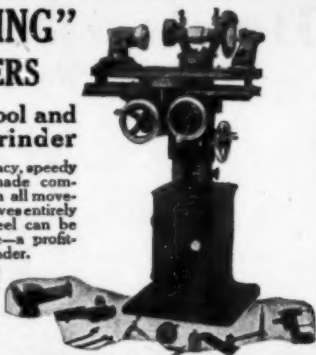
Built for close accuracy, speedy production and made completely universal in all movements. Table revolves entirely around head; wheel can be used at any angle—a profitable tool room grinder.

**McDONOUGH  
MFG. CO.,**

Machine Tool Dept.  
Eau Claire, Wis.

**YOUNG, CORLEY & DOLAN, Inc.,** 115 Broadway, NEW YORK CITY  
*New York District and Export Agents*

**SMITH-BOOTH-USHER CO.,** LOS ANGELES, CAL.  
*Southern California Representatives*



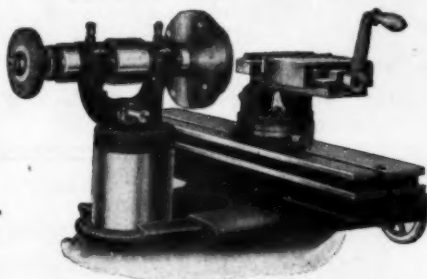
# Beat the File

The Universal Vise of the

*Greenfield*

## Universal Grinder

saves time and gives more accurate results



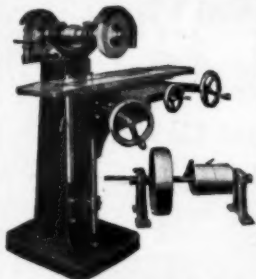
Look at this Vise. With it, the sides, ends or edges of flat, square or hexagon pieces may be ground flat and in exact angles with relation to each other. Both swivels are graduated to set instantly in any position. Invaluable for grinding dies, keys, gauges or other flat work. This is only one of many complete attachments regularly furnished with the Greenfield Universal for cylindrical, internal and surface grinding, and for all kinds and shapes of machine shop tools.

*Write for the fully illustrated Catalog*

**Greenfield Machine Company**

Greenfield, Mass., U. S. A.

## The "Metz" Heavy Duty Tool and Surface Grinder



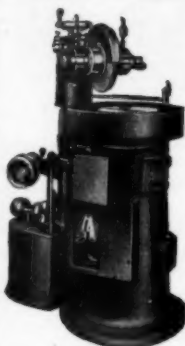
A tool of high mechanical perfection for general shop and tool room use. It is accurate, rigid and dependable for heavy service.

The high carbon steel spindle runs in split conical boxes of best quality anti-friction phosphor bronze with adjusting nuts. Bearing surfaces protected and ways hand scraped. All working handles in front.

*Description and price?*

### Metz Machine Tool Works

562 West Washington St., Chicago, Ill.



## Bristol 12-inch Precision Rotary Surface Grinder

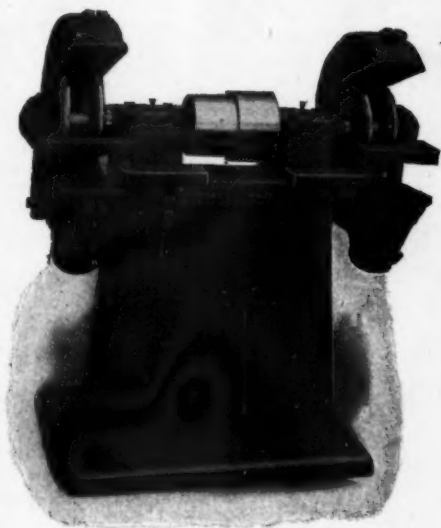
It grinds flat, convex and concave surfaces to within .0004" of manufacturing accuracy. We also make a highly efficient and accurate Grinding Machine for flat work only.

*We invite your inquiry*

### The C. G. Garrigus Machine Company

Bristol, Conn., U. S. A.

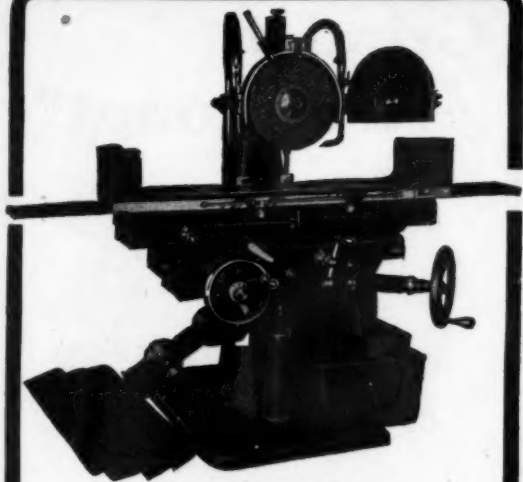
# **Grind it** *on a* **"Blount"**



**No. 6½**

Our eight sizes meet all requirements of general grinding work. The large bearings insure accurate work under continuous heavy load.

**J. G. BLOUNT CO., Everett, Mass.**



This  
**W. & M. No. 3 SURFACER**  
Capacity 8x24 Inches

Is Worthy of Investigation  
Nearly 1000 In Service

*Circulars on request*

**Wilmarth & Morman Co.**

*Manufacturers of Drill-Surface-Universal Grinders*

1185 Monroe Ave., N.W., Grand Rapids, Mich., U. S. A.



# "WELLS"

## Universal Grinders

Will keep all ordinary and most special tools and cutters in the pink of condition. Seven assortments of holding fixtures enable you to select just the equipment which your requirements call for.

The machine and attachments are well made and fully adjustable. The swivels, etc., are graduated. Yet the price is very reasonable.

**Write for Bulletin describing this machine in detail.**



**Greenfield Tap and Die Corporation**  
Greenfield, Massachusetts, U.S.A.

*Machine Tool Division*



# The New Grand Rapids

Embody over a dozen new points of su  
alone well warrant your immediate purch



Belt or M  
Drive

Wet or  
Grinding

Large or S  
Drills

REMEMBER this is a new machine, em  
operation, and it is practically fool-proof.  
ten years' experience in the drill grinder bus

*Descriptive matter free. W*

**Grand Rapids Grind**  
17 Ottawa Ave., N. W.,



**the New**

# **ls Drill Grinders**

s of superiority, any one of which would  
te purchase and installation of a machine

t or Motor

Drive

et or Dry

Grinding

ge or Small

Drills

If you've a man in your employ who comes close enough to grinding a drill right by hand so that he "gets by," he's too good a mechanic and too clever with his hands to be allowed to do, in these times, what a boy or a girl, aided by an inexpensive machine, can do much better.

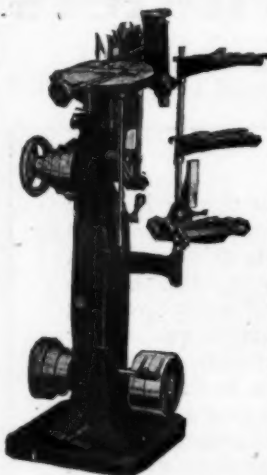
embodying many new features of design and  
proof. It has built into it the results of over  
der Business.

free. Write for yours today.

## **Grinding Machine Co.**

**Grand Rapids, Mich., U. S. A.**

## Cochrane-Bly Machines Insure Accurate, Low-Cost Filing



**No. 2 Filing Machine**

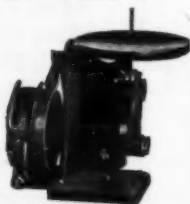
The Bench Filing Machine, shown on the right, is compact and convenient for light filing. Furnished with or without Upper File Support.

Accurate filing by hand is difficult for the expert; with the Cochrane-Bly No. 2 Filing Machine it is rapidly and perfectly accomplished at minimum cost.

Table is adjustable, also length of stroke, and there are four speeds.

The standard equipment includes arms for Hack Sawing and extension holders for Jig Saws.

This machine meets the most exacting tool room requirements where close finish is desired.



**Bench Filing Machine**

*Glad to mail you complete description*

## Cochrane-Bly Company

**Rochester, N. Y., U. S. A.**

**Also Cold Saws and Automatic Cold Saw Sharpeners  
Universal Shapers for Die and Tool Work**

*Specify  
B&S Cutters*



## **Rugged and Capable**

B. & S. Cutters fulfil every requirement of quality, accuracy, and service. They're carefully made and rigidly inspected. B. & S. Standard Cutters—45 styles and over 5000 sizes. Special and formed cutters made to your order.

*Send for Catalog 27 Today*

**BROWN & SHARPE MFG. CO.,  
PROVIDENCE, R.I., U.S.A.**

## Cuts 6-in. Steel In 10 Minutes

Smaller sizes of cold rolled steel cut in proportion by the Marvel No. 4

—a high grade, improved tool with the speed, accuracy and convenience that insures bed-rock economy.

Cuts on the draw stroke and lifts free of the cut on the return. A graduated feed wheel gives any desired pressure on the saw blade.

*Also other hack saws, punches and shears.*

*Write for circulars.*



Patent Applied For

**Armstrong-Blum Mfg. Co.,** 341 N. Francisco Ave.  
CHICAGO, ILL.

## Material, Time and Grinding

**Saved by Peter Bros. Metal Cutter**

Doing things at less cost, or at a saving, while always desirable is not always practicable. If you have to cut any high speed steel, taps, reamers, tees, brass or copper tubing, or a combination of metal and wood, our Abrasive Cutter can save you money.

**8" Size \$17.50, with C. S.**  
Splendid for tool room. Cuts high-speed steel up to  $\frac{1}{4}$ " square.

**12" Size \$50, with C. S.**  
Cuts up to  $2\frac{1}{2}$ " diameter, round or square, at any angle up to 45 degrees. Ball bearing.

**15 Days' Free Trial**

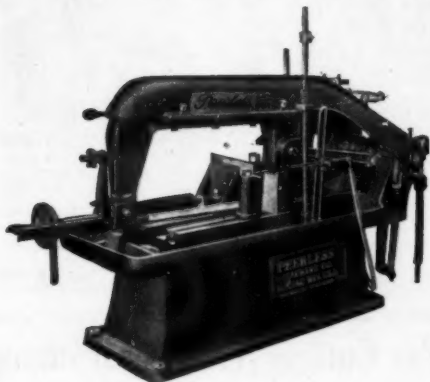
Write us or ask your dealer

**PETER BROTHERS MFG. CO.**  
115 Railroad St., Algonquin, Ill.



# *Peerless* **HIGH SPEED**

**The New Standard—50 to 100% Greater Output**



*Some users of national reputation. Names on request.*

An aeroplane manufacturer at Buffalo uses six 6x6.  
A plant at Worcester, Mass., eleven 6x6, four 9x9.  
At Rochester, N. Y., five 6x6 and six 13x16.  
A steel company at Philadelphia, three 9x9, two 13x16.  
At Dayton, Ohio, four 6x6 and three 9x9.  
A Cincinnati machine tool builder, three 6x6, one 13x16.  
A forging concern in Indiana, six 13x16 machines.  
At Harvey, Ill., seven 6x6, eight 9x9, one 13x16.  
At Stillwater, Minn., one 6x6, twelve 9x9.  
A manufacturer at Moline, Ill., eight 6x6, one 13x16.  
A large manufacturer at Boston, thirty 6x6 machines.  
One at Baltimore, Md., seven 6x6 Peerless machines.  
A well-known steel concern in Chicago, seven 6x6.  
A big Milwaukee plant, sixteen 6x6 machines.  
An electric concern in Michigan, ten 6x6 machines.

*Order a "Peerless" on 30 days' trial  
If it fails to make good we pay freight both ways*

**Peerless Machine Company**  
1609 Racine Street, RACINE, WISCONSIN

## Quickwork Rotary Shears

Never Fail to Decrease the Labor Costs from 25% to 50%;

Never Fail to Increase the Output;

Never Fail to Do Better Work.

Cuts straight lines as well as any other Rotary Shear, and in addition will cut the most irregular, serpentine and zig-zagged lines across the sheet with one passage of the metal; or it will cut any shape or opening in a sheet without cutting in from the side.

Has three speeds; both cutters driven and the metal is self-feeding, and comes through with smooth straight edges. Send for new catalog.



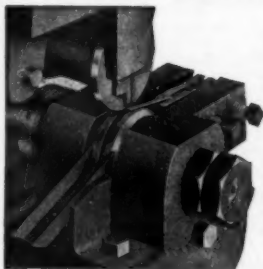
Twelve Sizes  
Cutting any  
thing from  
the thinnest  
sheets to  $\frac{3}{4}$ "  
Steel  
Plates.

**THE QUICKWORK COMPANY**  
Successor to H. Collier Smith, Detroit.

Main Factory and Office  
St. Marys, Ohio.

## For Cutting Sheets and Plates

20" to 30" a Minute in Metal up to 3-16" Thick



Cutter and Feed Rolls

### The New Gray Sheet Metal Cutter

Does all that a shear will, besides an enormous amount of other work. Scope practically unlimited within its capacity.

Feeds automatically like a sewing machine, and follows any intricate pattern. Cuts a clean kerf, leaving metal flat and edges smooth.

*It's worth investigating  
May we post you—now?*

**W. J. SAVAGE CO., Knoxville, Tenn.**



Standard the World Over

# “RACINE”

## High Speed Metal Cutting Machine

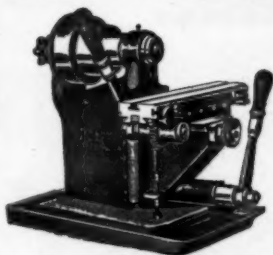
The only high speed metal cutting machine on the market that is absolutely positive in every action and will duplicate itself in every cut during the entire life of the machine. All wearing parts are adjustable and accurately machined.

We make a complete line—25 Types—a machine for every purpose—either belt or motor-driven. These machines are equipped with three-speed transmission when desired, enabling you to cut any metal at the proper speed.

**Racine Tool & Machine Co.**

Racine, Wisconsin, U. S. A.

## Just The Machine



for those light cuts on details for Fire-arms, Sewing Machines, Typewriters, Bicycles, Electrical work, and a thousand and one other details used in the manufacture of the various products of the manufacturing world.

*Send for descriptive circular*

**The Carter & Hakes Machine Co.**  
West Winsted, Conn., U. S. A.

AGENTS—for New England and New York, Hill, Clarke & Co.  
WESTERN AGENTS—Marshall & Huschart Machinery Co.,  
Chicago, St. Louis, Indianapolis.



## Burke's No. 3 Bench Millers

**Are Seasoned Tools**

Our system of tests insures accuracy, and our methods of construction make it permanent. Frames and parts are carried 6 to 8 months, after work begins on them, before the completed tools receive our final O. K., and all parts are finished and fitted with exceptional care.

Longitudinal feed, 6 in.;  
traverse feed,  $3\frac{1}{2}$  in.; vertical  
motion of knee, 8 $\frac{1}{2}$  in.; table  
surface,  $3\frac{1}{2}$  x 12 inch.

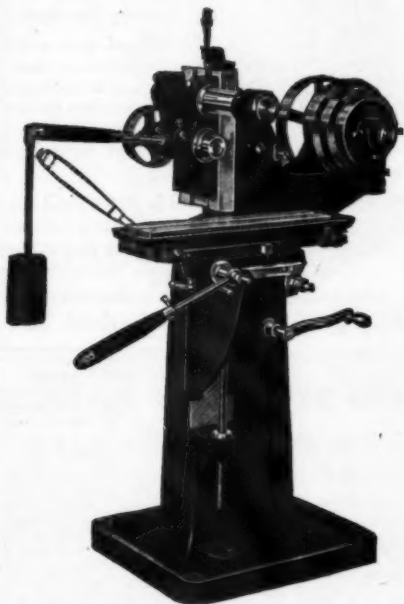
*Write for Catalog, which also shows larger and smaller sizes.*

**The Burke Machine Tool Co.**  
Conneaut, Ohio



# **"Whitney" Hand Miller**

**THOUSANDS IN USE**



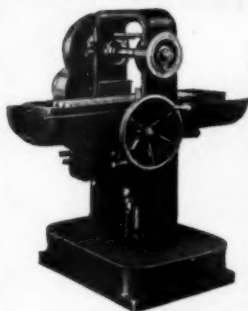
No other type of Hand Miller equals the "WHITNEY"  
for high production on interchangeable work.

**Prompt Deliveries**

**The Whitney Mfg. Co., - Hartford, Conn.**

**Chains—Keys and Cutters—Hand Milling Machines**

## Mills Gun Parts Economically



### Briggs High Duty Milling Machine

is a fast and accurate machine designed on original lines by a manufacturing engineer who saw the need of a miller that would stand the stress of heavy, rapid cutting.

The result is a tool without an equal for form and gang milling of steel parts for guns, automobiles, etc.

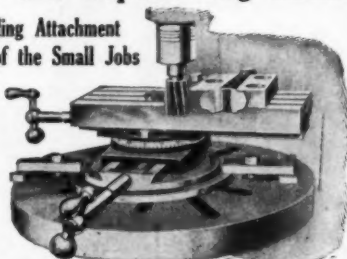
*A thoroughly successful machine—write for description*

**GOOLEY & EDLUND, Inc., Cortland, N. Y.**

## Relieves and Replaces Big Millers

**Davis Milling Attachment  
Does 90% of the Small Jobs**

**Converts  
any Drill  
Press from  
14 to 42-in.  
swing in  
2 Minutes**



Relieves your large millers, comes in handy spotting castings, milling ends of bosses, etc., and does 90% of the lighter jobs as well as a \$1,000 machine; cuts keyseats perfectly. We also have low factory prices on our cylinder reamer for reboring the Ford car, and on our reliable air compressor. Write for details.

**Hinckley Machine Works, HINCKLEY, ILL.**



## Being Able to Produce

Quickly and accurately, are some of the many reasons for the steadily increased demands for our

### **SPECIAL CUTTERS**

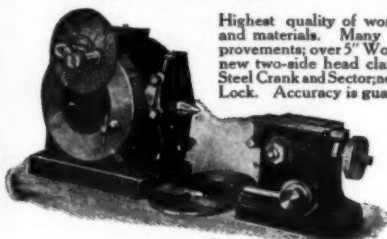
SEND US BLUE PRINTS OR TEMPLETS  
FOR QUOTATIONS

**The Cleveland Milling  
Machine Company**

18511 Euclid Ave.      Cleveland, O.

## Quick Delivery—Good

Accurate 10" Universal Index Centers



Highest quality of workmanship and materials. Many new improvements; over 5" Worm Wheel; new two-side head clamps; new Steel Crank and Sector; new Spindle Lock. Accuracy is guaranteed.

Get the Original—Beware of Imitators

*Sold by all dealers. Write today for particulars.*

**Fred. C. Dickow, 35 So. Desplaines St., Chicago, Ill.**

## Sensitive Balancing Ways

Designed Especially for Balancing Cutter Heads, Crank Shafts, Aeroplane Motors, Propellers, Polishing Wheels, Cones, Pulleys, Gim Brushes, Armatures, Rotars for Turbines, Etc. Several Sizes.



### Anderson Ever-Ready Balancing Ways

require no adjusting. The rotation discs run on specially designed ball bearings, and are extremely sensitive. Made of chilled iron, ground true on face, and perfectly balanced.

*Their reliability commends them. Send for details.*

**Anderson Bros. Mfg. Co.**

**115 Morgan St., Rockford, Ill.**

# "Van Dorn"

## Portable Electric Drills

As production accelerators they are not surpassed by the best automatic machinery; and their peculiar "Van Dorn" construction makes them reliable—they stay on the job.

The *Van Dorn* Electric Tool Co.  
Cleveland, O.

*Agents in Principal Cities*

*Write for Catalog H. M. T.*





*We manufacture a great variety*  
**Lathe Chucks, Drill Chucks, Centering Chucks**  
*Also*  
**Portable Jaws for Lathe face plates and Machine tables.**

*Let us send you our Catalog*

**The Cushman Chuck Co.**  
*Established 1862* **Hartford, Conn.**

## **Sweetland Lathe Chucks**

### **Grip Quickly and Stay Gripped**



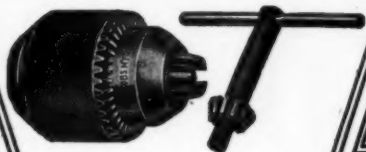
They take a quick grip on work of varied shapes.

And they *stay* gripped. No danger of spoiling work at the last moment.

Because of their quick and firm grip *they are particularly desirable on rush work.*

*Ask for Catalog No. 10-C*

**The Hoggson & Pettis Mfg. Co.**  
**New Haven, Conn., U. S. A.**



## **JACOBS IMPROVED DRILL CHUCKS**

### **Stand the Test of Use**

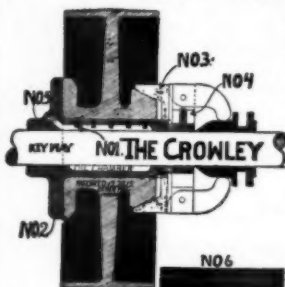
The one big outstanding factor, in the rapid and steady growth of our business, is the recommendation of Jacobs Improved Drill Chucks by one user to another. That has only one possible meaning—a degree of drill chuck satisfaction which you would find profitable in your own shop.

*Want full particulars?*

**The Jacobs Mfg. Co.**  
Hartford, Conn., U. S. A.

# The 20th Century Clutch

The Clutch Problem Solved



Thoroughly tested  
in actual service.

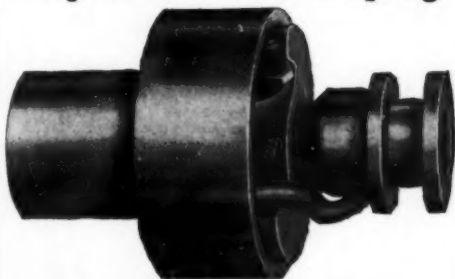
Many machinery manufacturers have adopted it as their standard. Why not you?

No. 6—Shows the wedge shaped plates that give National Clutches their big pulling power; compact; simple; no springs or weak part on this clutch.

A guarantee with every clutch that it will pull more, size for size, than any similar device. Circulars on request.

National Clutch Co., 1859 Fulton St., Chicago, Ill.

## Expansion Clutch Coupling



**Conway & Company**

2509 Beekman St., Cincinnati, Ohio

Manufacturers of Friction Clutches since 1895



# Thor

## Universal Electric Drills

Licensed Under Burke Universal Motor Patent

Indispensable for all kinds of drilling, reaming and wood boring in the building of automobiles, steel and wood cars, boilers, auto bodies, and in railroad and structural shops, ship and dry dock work and machinery repairs. Can be operated on alternating or direct current, 110 to 250 volts. Furnished with cord and suitable feed attachment ready for immediate use. Attach to any lamp socket.



000	Drilling Capacity	1.4"
00	"	" 5-16"
0	"	" 3-8"
01	"	" 1-2"
1	"	" 9-16"

No. 6 Electric Grinder.

### Independent Pneumatic Tool Company

Chicago    New York    Pittsburgh    Detroit  
San Francisco    Birmingham    Montreal

# A Size to Suit Your Needs



Type B

## Hydraulic Presses— Power, Hand, or Both

They work much easier than geared or screw presses, and much quicker than screw presses. We are prepared to build any style of press, of any capacity.

Notice the gap in crosshead, which allows an axle or a shaft to extend upwards any distance, while a down push press has only a limited distance downwards.

### Type B Presses

Any capacity from 10 to 100 tons.  
Widths between posts 12", 18",  
24", 30" and 36".

*Write for Catalog of Hydraulic Machinery*

**Lourie Mfg. Co.**  
Springfield, Ill.



No. 24 Press

## Efficient Equipment Atlas Presses

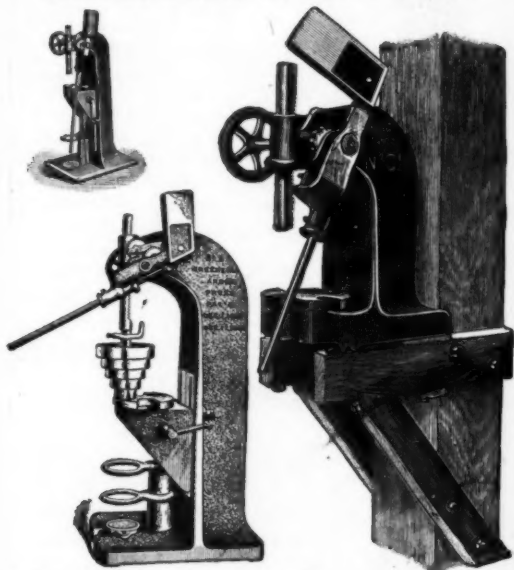
for building and repairing automobiles and general machine shop operations requiring pressure up to 25 tons and centering capacity up to 36 inches.

For driving mandrels; bending and straightening, broaching, embossing with dies, setting bushings and many other every day manufacturing jobs, there is an Atlas Press. All sizes for all purposes. *It will pay you to investigate.*

**Atlas Press Co.**  
317 N. Park Street,  
Kalamazoo, Mich., U. S. A.

# Greenerd Arbor Presses

From 15 Lbs. to 40 Tons Pressure



Order your Greenerd Arbor Press now. Don't wait until after you pay for your government bonds or for your next winter's coal. Greenerds help you *save* money, so you will have more to spend. With over 30,000 feet of floor space devoted to making nothing but Greenerds in many styles and sizes, we have one or more that will fit right into your work nicely.

*Ask your dealer or write for Catalog to—*

**EDWIN E. BARTLETT,**

**NASHUA, N. H.**



## By All Means Investigate!

### The Barr Pneumatic Light Forging Hammer

Is positively one of the most convenient, adaptable time and wage saving tools you can have in your plant!

It has no equal on tool dressing, forging, blacksmithing, etc., up to 2" square.

It is used by the leaders!

The price is most interesting!

*Write for bulletin 10 H.*



## Fairbanks Hammers

25 to 300 lbs.

### Belt or Motor Drive

These Hammers Embody a Design and Workmanship that are Unsurpassed.

*Send for Catalog*

## United Hammer Co.

Oliver Building, Boston, Mass.

### SALES AGENTS

The Fairbanks Company—Albany, Baltimore, Boston, Bridgeport, Buffalo, Chicago, Hartford, Newark, New Orleans, New York, Philadelphia, Pittsburgh, Providence, St. Louis, Syracuse, Havana, London, Glasgow, Paris.

Cap.

20

Tons

Price

66<sup>00</sup>

Net



# WEAVER

## Forcing Press

WE ARE SPECIALIZING upon this one size and style of press. It is the ONLY press we make, therefore we are able to produce a better article at less money than were we compelled to carry the overhead necessary to produce a great variety of styles.

5-inch, 9-pound channel steel frame, 32-in. wide, 15-in. hand wheel, carried upon ball bearings. Bronze Thrust Bearings, Screw 2 in. in diameter with 3-pitch Acme thread. Range of movement, 12 in. The screw does not revolve.

Net Price (32-in. Width) \$66.00

**Weaver Manufacturing Co.**

2179 So. 9th Street,

Springfield, Illinois

## A Fast, Noiseless Riveter



**A boy or girl can  
operate it efficiently**

**SPEED:** One rivet per second.

**FINISH:** Perfectly formed heads; highly polished surface; no tool marks.

**UNIFORMITY:** Each rivet headed with same degree of tightness or looseness, as desired.

### The Grant Rotary

Rivet Spinning Machine stands alone in the combination of speed, finish, uniformity, and economical operation by cheap help.

*The Catalog shows several styles*

**The Grant Mfg. & Machine Co.**  
C. E. Station, Bridgeport, Conn.



## Hartford Taper Gage

For measuring the various tapers on end mills, profile cutters, twist drills, reamers, milling machine arbors, lathe centers, etc.

It substitutes scientific accuracy for time-wasting, haphazard methods, and soon more than repays its moderate cost by saving high-priced labor and hastening the work.

Inaccuracies of less than a thousandth of an inch are detected instantly.

*Send us your address—we'll do the rest*

**Hartford Special Machinery Co.**  
285 Homestead Ave., Hartford, Conn.

# Alert Roller Grip Stub Arbors



Be up to the minute! Get a 25% increased production! Adopt ROLLER GRIP STUB ARBORS for your work. Don't waste your time driving Mandrels in and out of your work, let a ROLLER GRIP do it. Forget your arbor press. Stub Arbors made in all sizes.

---

*Send for circulars (SA).*

---

**Alert Tool Company**

237 North 6th St.,

Philadelphia, Pa.

Did you ever ask us to make those screw machine collets, with regular or irregular holes?

We are prepared to make good deliveries.

Why not try us next time?

Quantities never too small or too large to interest us.

**Hardinge Brothers, Inc.**  
Chicago, Ill.

## Rearwin Die Filing Machines



Will increase your production in decreased time; better work with less experienced help; more service from the files, owing to release on up stroke; better dies, owing to a uniform degree of clearance on all sides.

Table is 39" from floor and 17" x 18" square, with yoke inside that tilts nine degrees in 4 ways, which is necessary.

Has two adjustable steel arms to use standard or special files from a 3" needle file to a 12" coarse file.

Will successfully handle small dies and fairly large die shoes, and is proving unusually handy and profitable in many other lines of manufacture.

*Circulars for the asking*

**W. D. Rearwin**

341 Mill Ave., Grand Rapids, Mich.



# Redface Pulleys

**Sheaves and Fly Wheels**



**PERMANENT:** They are permanent, as they are not affected by age, heat, cold or moisture.

**RELIABLE:** They do not loosen up under vibration or intermittent loading.

**RUN TRUE:** They run true, steady the line shaft, and have a very small load due to windage.

**REDFACE PULLEYS** are especially adapted to use on motors, fans, pumps and special machinery.

*Catalog mailed promptly upon request*

## **Pyott Foundry Co.**

Cast Iron Pulleys, Sheaves and Fly Wheels

328 N. Sangamon St.,

Chicago, Ill.



## Giant Universal Joints For Heavy Service

Made in sizes  $\frac{1}{2}$ ,  $\frac{3}{8}$ ,  $1\frac{1}{16}$ ,  $1\frac{1}{4}$ ,  $1\frac{5}{8}$ ,  $2\frac{1}{8}$  and  $2\frac{1}{2}$  in.

Especially adapted for use on powerful, high-speed machines, for work up to an angle of 45 degrees. The wearing contacts are of hardened steel and large diameters. "Giants" are self-oiling and entirely enclosed against dirt—they take care of themselves. We also make the Vanderbeek Universal Ball Joints and solicit your inquiry for practical, reliable angular drives to meet any requirement.

### Ainslie Machine & Tool Works

Successors to Vanderbeek Tool Works  
HARTFORD, CONN.



## IMPERIAL WELDING & CUTTING EQUIPMENT

Absolutely indispensable in machine shops, foundries, structural and ornamental iron works, repair shops, electric or steam railroad yards, garages, boiler and tank works, etc. Imperial Equipment speeds production in process work—repairs broken or worn tools, machinery or equipment in a surprisingly short time.

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555-557 W. MONROE ST., CHICAGO



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**For Power Tools, etc.**  
**We can save you money.**

*The Price*, on account of quantity production, is below the manufacturing cost of cast iron or forged handles.

*In Quality* there is no comparison. They are accurate, highly finished, and ready to attach. Let us show you.

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**The Cincinnati Ball Crank Co.**  
Oakley, Cincinnati, Ohio





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8 JACKSON PLACE, WASHINGTON, D. C.

## Contract Work Wanted

This department is exclusively for the use of those desiring to secure contracts for anything in the line of foundry or machine work, including press work, dies, jigs, fixtures, gears, die castings, drop forgings, screw machine products, springs, bolts, nuts, rivets, etc. Advertisements are to be set with side headings as shown, and with such display as may be appropriate to the copy used. Rates: one-eighth page, per month, \$4.

<p><b>Gauges, Jigs Dies, Tools and Light Machinery</b></p>	<p><b>The Model Tool &amp; Gauge Co.</b> 185 John St., Bridgeport, Conn. Quick deliveries on gauges, jigs, dies and tools. Light machinery built on contract. Send us your specifications. We shall be pleased to quote.</p>
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<p><b>Dies Tools Special Machinery</b></p>	<p><b>Robbins, Gamwell &amp; Co.</b> Pittsfield, Mass. Accuracy and efficiency in gages, dies and special machinery, is our specialty.</p>
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<p><b>Dies, Gauges Jigs and Fixtures</b></p>	<p><b>A. N. Van Deman</b> 95 William St., New York City Model and experimental work; special machinery built to order; contract manufacturing. Finished parts, of intricate shapes, accurately produced from electrolytic copper</p>
<p><b>Drop Forgings (All Kinds)</b></p>	<p><b>Bonney Vise &amp; Tool Works, Inc.</b> Allentown, Pa. <b>Quick and Accurate Drop Forging and Finishing</b> Good tools, good men, and good management insure precision and promptness. Investigate; when you know our facilities and our record you'll want our service.</p>

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<b>Dies, Tools and Machine Work</b>	<b>Smith Specialty Mfg. Co.</b> <b>136 Second St., Milwaukee, Wis.</b> Wanted, machine work for lathe, shaper and miller, also drill press work.
<b>Want Orders for Die Casting?</b>	This is the place where you can offer your facilities to users of metal products everywhere in the United States. Many readers of the Tool List are in the market for die castings, and they would welcome information as to what you can do for them.

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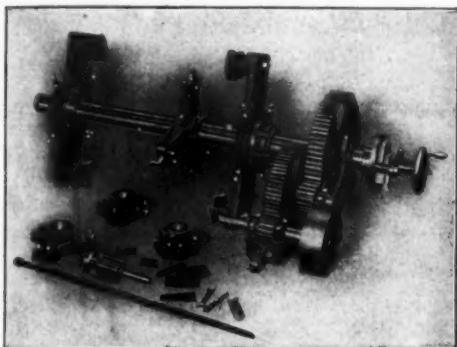
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Landis 10"x30" Plain Grinder with Universal Headstock.  
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 24" Cincinnati High Speed Shaft Driven Upright Drill with Gear Box and Tapping Attachment.  
 Universal Swivel Table for Radial Drill.  
 Two 38" Safety Wet Tool Grinders.  
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 Dry Grinder for two 12" Wheels.  
 Heald Style "C" Drill Grinder.  
 One 24" Rockford Wet Tool Grinder.  
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 U. S. Portable Electric Grinder, 110 volt, 1/2 H. P.  
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## Second-Hand Machinery.

Lists of Second-Hand Machinery, either for sale or wanted, set in uniform style, will be published under this heading at the rate of **80 cents a line**, across the page, each issue. Minimum charge, **\$4.00**. Sub-headings are counted as one line, but the name and address of advertiser are not included in the space charged for. No display in this department.

**Write directly to those offering the machines for sale for prices and full descriptions.** If what you require is not listed, use the blank enclosed to make known your wants to the publisher.

### FOR SALE BY

**Dale-Brewster Machinery Co., Inc.,**

**541-7 Washington Blvd., Chicago 54-60 Lafayette St., New York**

#### LATHES.

14"x 6' Cisco, q. c. g.

16"x 6' Cisco, q. c. g.

18"x 8' Cisco, q. c. g.

14"x 6' Davis, tool room, oil pan, taper attachment.

16"x 6' Monarch, q. c. g., d. b. g.

#### DRILLING MACHINES.

25" Snyder, sliding head.

20" back geared, p. f.

No. 1 Detroit, h. s., b. b.

20" wheel and lever feed.

14" U. S., h. s., b. b. sensitive.

Langelier, h. s., b. b.

#### MISCELLANEOUS.

Boring mill, 42" Colburn, used.

Die filing machine, No. 3 Barry.

Grinders, No. 3 Modern universal.

Grinder, Cleveland, profile.

Grinder, W. & L. style B point drill.

Grinder, No. 1 LaSalle, surface.

Grinder, Metz, tool and surface.

Grinder, No. 1 Grand Rapids univ.

Lathe, 13" used South Bend.

Lathe, 14"x 6' Amtew, used.

Lathe, 4x60 Lo-Swing, used.

Miller, No. 3 Cincinnati univ.

Miller, No. OB Fox plain.

Miller, No. 2-A Fox universal.

Screw machines, No. 3 Foster.

Screw machine, 1x8" Pierce.

Shapers, 14" Davis, cone drive.

Note: Have complete stock milling cutters, drills, sleeves and sockets, hack saws, etc.

Have Horizontal Drilling and Boring Machines for very good delivery.

Send us your inquiries.

### FOR SALE BY

**Wm. C. Johnson & Sons Machinery Co.,**

**1001-3-5 N. Sixth St.,**

**St. Louis, Mo.**

#### LATHES.

12"x 6' Fairbanks.

18"x 8' American, q. c.

18"x 8' old style.

20"x 8' Rahn & Larmon, q. c.

22"x 24' Forsaith.

50"x 20' New Haven.

18" Fox lathe.

#### SHAPERS AND PLANERS.

20" Gould & Eberhardt.

24"x 24"x 6' Pease.

30"x 30"x 8' Harrington.

#### MILLING MACHINES.

No. 0 Brown & Sharpe universal.

No. 2 Lodge & Davis universal.

#### MOTORS AND GENERATORS.

15 h. p., 3 ph., 60 cy., 440 volts.

110 k. w., 3 p., 60 c., 220 v. generator,

direct connected to Chuse engine.

15 h. p., 220 v., d. c.

20 h. p., 220 v., d. c.

50 h. p., 220 v., d. c.

75 h. p., 220 v., d. c.

50 k. w., 125 v., d. c. generator.

#### MISCELLANEOUS.

Beader, No. 0 Niagara.

Drills, 20-spindle, (2).

Grinder, plowshare, No. 35.

Hammer, 25 lb., helve.

Hammer, 40 lb. Bradley helve.

Paper cutter, Seybold Monarch 40", power.

Oven, steel japanning.

Press, forming, 20 ton hydraulic.

Press, 10' toggle crimping.

Press, notching, No. 61 Bliss.

Ram presses, Bliss, double. (2).

Roller, corrugating, 5/8" sheet iron.

Squaring shear, 10 Niagara.

## SECOND-HAND MACHINERY

### FOR SALE BY

Henry Prentiss & Company, Inc.,      Singer Bldg., New York

Formerly

Prentiss Tool & Supply Company

### BORING MACHINES.

2-spindle Moline adjustable center cylinder borer.

### DRILLING MACHINES.

- |   |   |
|---|---|
| 1-spindle Henry & Wright ball bearing, sensitive, 24 swing. | 36" Bickford plain radial.              |
| 4-spindle Woodward & Rogers.                                | 25" Blaisdell sliding head drills, (2). |
| 4-spindle Barr.   | 54" Baush post radial.                  |
| 42" Hamilton radial.  | 23" Barnes, sliding head.               |
|   | 10 spindle Gardam adjustable.           |

### GRINDERS.

- |                                   |                               |
|-----------------------------------|-------------------------------|
| BX Yankee tool grinder.           | No. 6 Bryant internal.        |
| 12x60 Landis universal.           | 18-30x96 Norton.              |
| No. 60 Heald cylinder.            | No. 11 Rivett, oscillating.   |
| 10x36 Norton.                     | 6x48 Pratt & Whitney.         |
| 6x32 Norton plain.                | No. 2 Oesterlein universal.   |
| No. 50 Gardner double ring wheel. | "H" Point Yankee twist drill. |

### LATHES.

- |  |   |
|--|---|
| 11"x4' Mann.   | 21"x 8' Lodge & Davis, c. r., power cross feed. |
| 12"x8' Garvin.   | 28"x14' Pond, compound rest.                    |
| 16-32"x10' Fay & Scott gap lathe, (new).                 | 22"x10' Lodge & S., selective head.             |
| 18"x10' Schumacher & Boye.                               | 30"x10' Gleason, plain rest, power cross feed.  |
| 18"x 8' Rahn-Carpenter, compound rest, power cross feed. | 20"x12' Hendey.                                 |
| 14"x8' Hendey, q. c., taper, (2).                        | No. 2 Milwaukee plain.                          |
| 20"x10' Putnam, plain rest, power cross feed.            | 56"x24' Wood Light.                             |
|  | 84"x30' Putnam.                                 |

### MILLING MACHINES.

- |                                  |                             |
|----------------------------------|-----------------------------|
| No. 1 Brown & Sharpe, universal. | Grant manufacturing.        |
| Rivett swivel miller.            | No. 3 Reed plain.           |
| No. 2 Garvin hand miller.        | No. 2 Pratt & Whitney hand. |
| No. 3 Garvin plain.              | No. 2 Milwaukee plain.      |
| No. 4 Burke bench miller.        |                             |

### PLANERS.

- |                            |                                   |
|----------------------------|-----------------------------------|
| 26"x26"x 6' Lodge & Davis. | 24"x24"x12' Chandler.             |
| 25"x25"x10' Sellers, 1 hd. | 36"x36"x14, Lodge & Davis, 2 hds. |

### SCREW MACHINES.

- |  |                              |
|--|------------------------------|
| 11" No. 54 National Acme auto.           | 2x24 Jones & Lamson.         |
| 20x7 Fay & Scott universal turret.       | No. 7 Bardons & Oliver.      |
| 48" style "A" Cleveland auto., (2).      | 1" Rivett, wire feed.        |
| 26" Jones & Lamson, single pulley drive. | 1" Pratt & Whitney.          |
| 2" Cleveland automatics, (32).           | 1" National Acme automatic.  |
|  | 1 1/2" Rivett, plain turret. |

### MISCELLANEOUS.

- |   |                             |
|---|-----------------------------|
| Brake, 4' Ohl, double cam.                | Gear cutter, No. 2 Whiton.  |
| Broaching machine, No 3 Lapointe.         | Keyseater, No. 1 Davis.     |
| Cutting-off machine, 6" Hurlbut & Rogers. | Pinion cutter, No. 1 Slate. |
| Gear cutter, 26x10 Cincinnati.            | Shaper, 24" Hendey.         |

## SECOND-HAND MACHINERY

### FOR SALE BY

**Brown-McDonald Machinery Co., 2323 N. 9th St., St. Louis, Mo.**

#### LATHES.

- |   |  |
|---|--|
| 13"x 6' South Bend, c. r., h. s., new.                                | 14"x 8' American, q. c. g., c. r., h. s., used.                          |
| 15"x 8' South Bend, c. r., h. s., new.                                | 15"x 8' Sebastian, c. r., h. s., used.                                   |
| 16"x 8' South Bend, c. r., h. s., new.                                | 15"x 10' Von Wyck, c. r., h. s., used.                                   |
| 18"x 10' South Bend, c. r., h. s., new.                               | 16"x 7' P. & W., c. r., h. s., used.                                     |
| 14"x 6' Mulliner, tool room, q. c. g., taper att., draw-in att., new. | 16"x 6' Gray, h. s., cpd. r., used.                                      |
| 16"x 8' Walcott, q. c. g., d. b. g., c. r., h. s., new.               | 16"x 14' American, q. c. g., h. s., cpd. r., with 16" 4-jaw chuck, used. |
| 18"x 8' Walcott, q. c. g., d. b. g., c. r., h. s., new.               | 20"x 8' Oakley, d. b. g., not screw cutting, (2), used.                  |
| 20"x 10' Walcott, q. c. g., d. b. g., c. r., h. s., new.              | 36"x 16' New Haven, c. r., s. s., used.                                  |
| 14"x 6' Fitchburg, s. s., p. r., used.                                | 14" Pierce, plain head, turret, new.                                     |

#### DRILLING MACHINES.

- |                                       |  |
|---------------------------------------|--|
| No. 1 Burke, bench, with chucks, new. | 20" Champion, s. b., lever, new.         |
| No. 28 Western Chief, bench, new.     | 26" Aurora, b. g., p. g. f., new.        |
| 14" Excelsior, 2 tables, new.         | 20" Silver, r. b., w. & l., used.        |
| No. 27 Canedy-Otto, new.              | 20" Silver, s. b., lever, used.          |
| 20" Silver, s. b., w. & l., new.      | 24" Bickford, s. h., lever, used.        |
| 20" Silver, s. b., b. g., p. f., new. | 24" Barnes, all-grd., tapping, used.     |
|                                       | 30" Prentice, s. b., s. h., p. f., used. |

#### SHAPERS.

- 16", 20" & 24" Milwaukee, b. g., latest improved, new.

#### SCREW MACHINES.

- No. 3 Smurr & Kamen, plain head, new.  
 No. 4 Smurr & Kamen, geared friction head, p. f. to turret, new.  
 No. 1 Garvin, plain head, w. f., collets, used.

#### MILLING MACHINES.

- No. 1 U. S. hand, vise and arbor, new.

#### PRESSES.

- |                                    |   |
|------------------------------------|---|
| No. 1 Baurath, o. b. i., new.      | No. 51 & No. 55 Swaine, used.               |
| No. 3 Loshbough-J., o. b. i., new. | No. 34 Niagara, used.                       |
| No. 4 Loshbough-J., o. b. i., new. | 33" 100 ton Caldwell Hydraulic, wheel, new. |
| No. 30A Perkins, o. b. i., used.   |   |

#### SAWS.

- |                                   |                                 |
|-----------------------------------|---------------------------------|
| Nos. 1 & 2 Marvel, draw cut, new. | 9x9" Peerless, high speed, new. |
| 6x6" Peerless, high speed, new.   | No. 1 Racine high speed, new.   |

#### BRAKES.

- 8' Dreis & Krump, steel, new.

#### SHEARS.

- 42" Niagara, Hercules, foot, square.

#### GRINDERS.

- |  |                                  |
|--|----------------------------------|
| Nos. 1, 2 & 3 Western, d. e., new.     | Auto. Mch. Co., cutter & reamer. |
| Nos. 1, 2 & 3 St. Louis, d. e., new.   | Wells, cutter & reamer.          |
| No. 20 Safety E. W. Co., elec. (4).    | Essley, cylinder.                |
| U. S., electric, 110 v., d. e., bench. |                                  |

#### COMPRESSORS.

- |   |  |
|---|--|
| Nos. 2, 3 & 4 Model B, vert., belted, new.      | 10x10" Star vertical, with engine, double acting, cap. 120 cubic feet, used. |
| 6x6x6" Laidlow, D. G., steam, horizontal, used. | 8x8" Star, vertical, belted, used.   |

#### MISCELLANEOUS.

- |                                     |  |
|-------------------------------------|--|
| Bulldozer, 5" stroke.               | Pipe machine, 2' Borden, belted.         |
| Chain hoists, 1½ & 2 tons, (3).     | Pipe & tube cutter, No. 5 Fox.           |
| Enameling ovens, Roberts, gas, (2). | Press, 20-ton Weaver, hand, new.         |
| Hammer, 60 lb. Knowlton, helve.     | Rivet spinners, ½ & ¾, Grant, bench (2). |
| Hammer, 600 lb. Morgan, steam.      | Large stock of tinners' tools.           |

#### CHUCKS.

- |   |   |
|---|---|
| 7½" & 9" 3-jaw Sweetland, scroll, new.      | 12" 4-jaw Simplex, ind., new.                           |
| 8" 4-jaw Sweetland, ind., new.              | 12" 3-jaw Manufacturers Equipment Co. air chucks, used. |
| 5", 6", 7½", 9" 3-jaw Cushman, univ., used. | 16" 3-jaw independent, used.                            |
| No. 18 National Acme, s. o., die hd.        | 20" 3-jaw Whiton, ind., used.                           |

## SECOND-HAND MACHINERY

### FOR SALE BY

McCoy-Brandt Machinery Company

Office and Warehouse, 216-218 Penn Ave., Pittsburgh, Pa.

### NEW EQUIPMENT.

#### LATHES.

- |   |   |
|---|---|
| 26"x14' Sidney, q. c., d. b. g., cone dr. | 18"x10' South Bend, s. b. g., cone dr.  |
| 19"x12' Sidney, q. c., d. b. g., cone dr. | 16"x 8' South Bend, s. b. g., cone dr.  |
| 19"x10' Sidney, q. c., d. b. g., cone dr. | 15"x 7' South Bend, s. b. g., cone dr.  |
| 17"x10' Sidney, q. c., d. b. g., cone dr. | 15"x 6' South Bend, s. b. g., cone dr.  |
| 17"x 8' Sidney, q. c., d. b. g., cone dr. | 13"x 6' South Bend, s. b. g., cone dr.  |
| 15"x 8' Sidney, q. c., s. b. g., cone dr. | 10"x 4' Climax, s. b. g. cone dr., (3). |

#### MILLING MACHINES.

- |  |                                   |
|--|-----------------------------------|
| No. 1 U. S. pl., hand, table 60"x23"   | No. 0 Bickett, vertical profiler. |
| No. 1 Bickett, pl. hand, table 54"x24" |                                   |

#### DRILL PRESSES.

- |   |                                       |
|---|---------------------------------------|
| 20" Silver Fig. 862, geared p. f., (3).   | 14" Excelsior, sens., 2 tables, (6).  |
| 20" Silver Fig. 860, power feed, (3).     | 10" Burke sen. bench, cap. 5/16" (6). |
| 20" Silver Fig. 858, wh. and l. fd., (6). | 9" W. Chief, bench, cap. 1/2", (10).  |

#### POWER METAL SAWS.

- |                                    |                                     |
|------------------------------------|-------------------------------------|
| Peerless, cap. 13"x16" belted.     | Peerless, cap. 6"x 6" belted.       |
| Peerless, cap. 9"x 9" belted.      | Economy, cap. 8"x 8" belted, No. 4. |
| Peerless, cap. 9"x 9" motor mntgs. | Economy, cap. 6"x 6" belted, No. 3. |
| Peerless, cap. 6"x 6" motor mntgs. | Economy, cap. 6"x 6" belted, No. 2. |

#### SHAPERS.

- |                                     |                               |
|-------------------------------------|-------------------------------|
| 24" & 18" Hollingworth, crank, grd. | 24" & 16" Barker, crank, grd. |
|-------------------------------------|-------------------------------|

#### GRINDERS AND BUFFERS.

- |  |                                      |
|--|--------------------------------------|
| 18"x2" Webster & Perks wet tool.       | No. 4 W. & P. pol. and bf'ng lathe.  |
| 14"x4" W. & P. gr. and pol., No. 14 T. | 12" Patch, dbl. end, with col., (3). |
| No. 0 W. & P. pol. & bf'ng la's. (3).  | 10" Patch, dbl. end, with col., (3). |

### USED EQUIPMENT.

#### DRILLING MACHINES.

- |   |  |
|---|--|
| 31' Bickford plain radial, cone drive.    | 24" Prentice, grd., sliding head.            |
| 7' Prentice, univ. tbl., tap'g att. m. d. | 20" sliding head, old style, poor condition. |
| 24' Fosdick plain radial, cone drive.     |  |

#### ELECTRIC TRAVELING CRANES.

- 30 ton Niles, 75' span 220 v., d.c., 4 motor.  
 25 ton Case, 28' 1" span, 220 v., d.c., 3 motor.  
 20 ton Shaw, 55' 10" span, 110/220 v., d.c., 3 motor.  
 20 ton Niles, 75' span, 560 v., d.c., 3 motor.  
 2 ton hand, 22' span, one or two trolleys (5).

#### GRINDERS.

- No. 5 Diamond wet tool. 36" wheel, single stand.  
 Yankee drill grinder, floor style.  
 Double end bench grinder, 6" wheels.  
 Grindstone, wheel 34"x5" with reservoir.

#### JACKS-HYDRAULIC.

- 15, 20, 30, 40 & 50 ton Dudgeon.

#### LATHES.

- 26/48"x26' McCabe two-spindle, motor driven.  
 24"x15' New Haven, h. s., compound rest.  
 24"x15' Fifield, solid spindle, plain rest.  
 19" Niles car wheel turning, journal att. m. d.  
 12"x5' speed lathe, countershaft.

#### MILLING MACHINES, PLANERS AND SHAPERS.

- |  |   |
|--|---|
| No. 24 Osterlein, universal, table 9"x36", index head. | 24" Gould & Eberhardt, crank, cone driven.        |
| No. 4 Garvin, plain, table 6"x20".                     | 24" Cincinnati, crank, motor 3-p., 60 cy., 220 v. |
| 30"x30"x16' American, sgl. hd., m. d.                  | 28" Cincinnati, triple geared, belted             |
| 60" Cleveland rotary, motor driven.                    |   |

#### SAWS—Metal.

- 27" blade Q. & C. No. 1-A, universal for motor drive.  
 26" blade Newton, belt driven.  
 12" blade Goodell & Pratt hack saw.  
 No. 2 Thompson metal jig saw.

## SECOND-HAND MACHINERY

McCoy-Brandt Machinery Company—Continued.

### USED EQUIPMENT.

#### MOTORS AND GENERATORS.

- 30 h. p. Fairbanks, 3 phase, 60 cycle, 220 volt, 900 rev.  
 30 h. p. Burke, 3 phase, 60 cycle, 220 volt, 1,800 rev.  
 20 h. p. Burke, 3 phase, 60 cycle, 220 volt, 900 rev.  
 20 h. p. Fairbanks, 3 phase, 60 cycle, 220 volt, 900 rev.  
 10 h. p. General Electric, 3 phase, 60 cycle, 220 volt, 900 rev.  
 3 h. p. Wagner, 3 phase, 60 cycle, 220 volt, 1,700 rev.  
 10 h. p. Fairbanks, 2 phase, 60 cycle, 440 volt, 1,200 rev.  
 1 h. p. General Electric, 2 phase, 60 cycle, 220 volt, 1,800 rev.  
 1 h. p. Fairbanks, 2 phase, 60 cycle, 220 volt, 1,800 rev.  
 10 h. p. Akron, 220 volt, d. c., 700 rev., series wound.  
 4 1/2 h. p. Shaw, 220 volt, d. c., 575 rev., series wound.  
 7 1/2 h. p. Triumph, 220 volt, d. c., auto. starter, elev. duty.  
 15 h. p. General Electric, 500 volt, d. c., 1,200 rev., type CE.  
 10 h. p. Westinghouse, 500 volt, d. c., 1,250 rev., type M.  
 1 h. p. Westinghouse, 110 volt, d. c., 1,800 rev.  
 1 h. p. Crocker-Wheeler, 110 volt, d. c., 1,600 rev.  
 1 h. p. Emerson, 110 volt, d. c., 1,800 rev.  
 1 h. p. General Electric, 110 volt, d. c., 800 rev.  
 1 h. p. Diehl, 110 volt, d. c., 1,800 rev.  
 75 h. p. Compensator, General Electric, 3 phase, 60 cycle, 220 volt.  
 12 1/2 k. w. General Electric, 125 volt, d. c., 1,500 rev.  
 90 k. v. a. Lincoln, 3 phase, 60 cycle, 220 volt, 1,200 rev.

#### PRESSES AND BRAKES.

- No. 225 Adriance, solid back, 2" stroke, 7,000 lbs., geared.  
 No. P-5 Ferracute, solid back, 1 1/2" stroke, 8,600 lbs., plain.  
 No. 4 Stiles, solid back, 1 1/2" stroke, 5,000 lbs., plain.  
 No. 4 Niagara, o. b. i., 2 1/2" stroke, 2,000 lbs.  
 No. 19 Avery, equal No. 19 Bliss, o. b. i., 2" stroke, (2).  
 No. 11 Perkins, straight sided, trimming, 4" stroke, bed 24x30", 16,000 lbs., side shear, plain.  
 No. 65 Special Toledo (cam drg.), 7" and 4" strokes, geared.  
 13' 6" Garrison brake or press, cap. 4", 118,000 lbs.  
 8' Robinson hand brake, cap. 16 gauge.

#### PUNCHES, SHEARS AND ROLLS.

- 49" tht. sgl., cap. 3x1 1/2", Providence.  
 27" tht. sgl., cap. 4x1 1/2", Queen City.  
 9" tht. sgl., cap. 1x1 1/2", Champion, (3).  
 15" tht. single, cap. 4x1 1/2", New Doty (hand).  
 18" tht. double, cap. 1x1 1/2", No. 3-A Royersford.  
 15" tht. double, cap. 1 1/2x1", No. 13 Williams-White.  
 15" tht. dbl., cap. 4x1 1/2", Fischer.  
 12" tht. dbl., cap. 4x1 1/2", Queen City.  
 12" blade dbl. bar shear, cap. 2 1/2 square Cruc.  
 24" tht. triple, comb. Schatz, m. dr. Guillotine shear, cap. 2 1/2 sq., No. 6 Perkins.  
 Guillotine shear, cap. 1 1/2" rounds, No. 6 Hilles & Jones, (2).  
 Guillotine shear, cap. 3x17", Fischer.  
 Rapid 3-blade shear, blades 8" long.

#### MISCELLANEOUS.

- Bolt cutter, 2" Acme.  
 Bolt cutter, 2 1/2" Morgan.  
 Bulldozers, Nos. 2, 5 & 6 W.-W.  
 Hammer, 1500 lbs. Bement steam drop.  
 Upsetter, 6" Ajax.

### FOR SALE BY

J. L. Osgood,

45 Pearl St., Buffalo, N. Y.

Chuckling lathe, 21" P. & J.  
 Chuckling lathe, 24" Davis.  
 Grinder, cylinder, No. 60 Heald.  
 Lathe, 17"x8' Blaisdell, and chuck.  
 Lathe, 24" raised to 34", Fifield 12' bed, chuck.  
 Piston and ring machine, Gridley automatic, motor drive.

Screw machine, hand, No. 1 Foster.  
 Screw machine, hand, 1" B. & S.  
 Screw machine, hand, 1" P. & W. hex. turret.  
 Screw machines, No. 5 Warner & S.  
 Spur gear testing mach., Gleason.  
 Time recorder, International, 200 numbers.

## SECOND-HAND MACHINERY

### WANTED BY

**South Bend Machine Tool Co.,** - - - **South Bend, Ind.**  
**BORING MACHINE.**

Second-hand boring machine wanted, one with 3" bar to bore a 5" hole in the center of 25" circle. Bar feed need not exceed 8 inches.

### FOR SALE BY

**Federal Machinery Sales Co.,** 10 N. Jefferson St., Chicago, Ill.  
Federal "Rebuilt-Rite" Used Tools

#### BORING MILLS.

42" Colburn vertical boring and turning mill, two swivel heads.

#### DRILLING MACHINES.

28" Aurora, sliding head, b. g., p. f., square table.

#### GEAR CUTTERS.

24" Fellows gear shaper.

36" Fellows gear shaper.

#### GRINDERS.

No. 1 Cincinnati universal cutter grinder.

Landis 12"x96" plain grinder.

Landis 10"x30" universal grinder.

No. 1 Grand Rapids cutter and tool grinder.

#### LATHES.

26-46"x22" McCabe, double spindle, c. r., h. s.

14"x 6" Canedy-Otto, h. s., c. r.

14"x 6" Flather, h. s., c. r.

16"x 8" Canedy-Otto, h. s., c. r.

16"x 8" Porter, h. s., c. r.

16"x10" Pratt & Whitney, plain rest, h. s., taper att.

18"x 8" Lodge & Davis, h. s., c. r.

20"x12" Lodge & Davis, h. s., c. r., taper att.

24"x10" Walcott, h. s., c. r.

30"x18" Draper, q. c. g., h. s., c. r.

#### MILLING MACHINES.

No. 1 Brown & Sharpe universal miller.

No. 2 Cincinnati universal miller.

10"x28" Bristol vertical miller.

#### PIPE MACHINES.

6" Eaton, Cole & Burnham, motor driven.

8" Eaton, Cole & Burnham, belt driven.

4" Bignall & Keeler.

#### PLANERS.

36"x36"x12" Pond, with two rail heads.

30"x30"x 6" Gray, one head, excellent condition.

#### PRESSES, PUNCHES AND SHEARS.

Nos. 18, 19, 20 and 21 Bliss presses.

150-ton United Engineering & Foundry Co. steam hydraulic forging press.

P. S. & W. 30" foot power squaring shear, No. 14 gauge.

P. S. & W. 36" foot power squaring shear, No. 14 gauge.

P. S. & W. 52" power squaring shear, No. 14 gauge.

#### SCREW MACHINES AND TURRET LATHES.

8" Bardons & Oliver hand screw machine, good condition.

24" Warner & Swasey gd. fric. hd., pr. fd. turret screw machine.

16" Warner & Swasey Fox turret lathe.

16" American Fox.

#### SHAPERS.

16" Osborne & Sexton back geared crank shaper.

24" Osborne & Sexton back geared crank shaper.

24" Cincinnati back geared crank shaper.

#### MISCELLANEOUS.

Bolt header, 1" Acme.

Hack saw, No. 1 Racine, h. s., power.

Hammer, 60 lb. Bradley horizontal helve.

Send for complete "Purple List."

## SECOND-HAND MACHINERY

### FOR SALE BY

**Stocker-Rumely-Wachs Co., 117-121 N. Jefferson St., Chicago**

In Stock For Immediate Delivery.

### DRILLING MACHINES.

- 14" Rockford, tapping attachment.  
21" Aurora, b. g., p. f., tapping attachment.  
25" Superior, s. h., p. f., tapping attachment.  
20" W. F. & J. Barnes, Style A, two spindles, auto, approach and return feed to both spindles.  
No. 11 Pratt & Whitney, 10 spindles.

### GEAR CUTTERS.

- No. 1 Adams hobber.  
Reynolds hobber.  
24"x7" Gould & Eberhardt, spur. | 30"x9" Gould & Eberhardt, spur and bevel.  
Newton, 40"x18", spur and bevel.

### GRINDERS.

- No. 1 Cincinnati, univ. cutter & tool. | No. 6 Modern internal.  
No. 2 Northampton water tool. | Globe buffer.

### LATHES.

- 11"x 5' Barnes, foot and belt power.  
11"x 5' Barnes, c. r.  
12"x 5' Fairbanks, c. r.  
12"x 5' Prentiss, c. r., 2 chucks, turret on bed.  
12"x 7' South Bend, c. r.  
13"x 5' Pratt & Whitney, r. and f. r., taper, 2 chucks.  
14"x 6' Reed, c. r., 1 chuck.  
14"x 6' Putnam, c. r., 2 chucks.  
14"x 6' Fairbanks, c. r., taper.  
14"x 6' Flather, c. r., taper. | 14"x 6' Prentice, c. r., d. b. g.  
15"x 8' Rockford Tool, c. r.  
16"x 6' Prentice, c. r., 1 chuck.  
16"x 8' Springfield, c. r.  
16"x10' Bradford, p. r.  
18"x 6' Bradford, c. r.  
18"x 8' Schumacher & Boye, c. r.  
18"x 8' Walcott, c. r., 2" raising bl.  
18"x12' Harker, c. r.  
20"x 8' Lodge & Davis, p. r., 1 chuck.  
20"x14' Blaisdell, c. r.  
48"x20' Sellers, c. r., t. b. g.

### PRESSES, PUNCHES AND SHEARS.

- No. 1 Michigan, o. b. i.  
No. 2 Rockford, o. b. i.  
No. 16 Crosby, o. b. i.  
No. 19 Bliss, o. b. i.  
No. 20 Thiem, o. b. i.  
No. 3 Bauroth, o. b. i. | No. 4 Rockford, o. b. i.  
No. 3 Bliss toggle drawing, geared.  
No. 4 Long & A. plate shear, cap. 1/2" plate, new.  
No. 105 1/2 Bliss circle shear, 12" tht., 12 gauge.

### SCREW MACHINES.

- No. 1 Warner & Swasey, plain head.  
No. 2 Pratt & Whitney, friction back geared.  
No. 3 B. & O., plain head.  
No. 3 Pratt & Whitney, double friction head, a. c., & w. f.  
No. 9 B. & O., friction head, a. c. & w. f., pwr. fd. to turret and cut-off slides.

### TURRET LATHES.

- No. 2 Foster-Kimball, plain head.  
16" Lodge & Davis, back geared.  
25"x7" Niles chucking.  
2"x24" Jones & Lamson, bar equipment, cone head.  
2"x24" Jones & Lamson, chucking equipment, cone head.  
3"x36" Jones & Lamson, bar equipment, single pulley drive.  
21" Gisholt, 2" hole in spdl., arr. for motor dr., has 5. h. p., d. c. 220 v., mot.  
21" Gisholt, taper attachment.  
24" Gisholt, taper att., 2 1/2" hole in spindle.  
No. 6-A Potter & Johnston auto.

### MISCELLANEOUS.

- Air comp., sgl. cyl., 6"x6" Curtis.  
Air tempering furnace, No. 1 Am.  
Boring mill, 60" Bullard, 2 sw. hds.  
Cold saw, No. 12 Higley.  
Cold saw, No. 1 Newton.  
Demagnetizer, Walker.  
Miller, hand, No. 6 Whitney. | Pipe machine, No. 1 Apex.  
Profiler, 2-sp. No. 14 P. & W.  
Tapper, No. 2 Garvin.  
Threading machine, 2-spindle No. 0 Webster & Perks.  
Vertical grinding planer, Springfield-Brandes.

## SECOND-HAND MACHINERY

### FOR SALE BY

**C. M. Thompson Co.,**

**35 S. Clinton St., Chicago**

Drill press, 3-spindle Henry & Wright, used.

Electro magnetic tool post grinders, No. 1-U, new.

Screw machine, hand, 1" Pratt & Whitney, used.

Screw machine, automatic, No. 52 National Acme 4-spindle, used.

Other metal working tools.

### FOR SALE BY

**The Strong, Carlisle & Hammond Co., Cleveland, O., Detroit, Mich.**

#### ENGINE LATHES.

8" Hardinge Bros. precision lathe.

10"x 4' Pratt & Whitney, r. & f., t. a. & d. a.

14"x 6' Blaisdell, r. & f. rest.

14"x 6' LeBlond, c. r. stand. pattern.

14"x 6' Flather, c. r. stand. pattern.

14"x 6' Flather, p. r.

16"x 6' Lodge & Shipley, patented head, comp. rest.

16"x 6' Flather, comp. rest, pan bed.

16"x 8' Pratt & Whitney, plain rest.

16"x 6' Pratt & Whitney, comp. rest standard pattern.

16"x 6' Cincinnati, c. r. & t. a., 3 step cone, d. b. g., q. c. g.

16"x 8' Prentice, compound, q. c. g., geared head.

16"x 8' Porter, comp. rest.

18"x 8' Lodge & Shipley, patented head, comp. rest.

19"x 8' LeBlond heavy duty, c. r., t. a., q. c. g.

#### TURRET LATHES.

14" Lodge & Davis, plain head.

16" Warner & Swasey, g. f. h. univ.

Fox with a. c. & c. a.

No. 1 Warner & S. hol. hex. turret.

24" Davis turret boring & chucking lathe, with vert. forming attach.

#### DRILLING MACHINES.

26" Prentice Bros. standard, sl. hd.

22" sliding head, w. & l. feed.

5-sp. Detroit, semi-automatic.

4-sp. Garvin, sensitive.

14" Taylor & F. upright sensitive.

No. 154 Foote-Burt, eight spindle, straight line, (2).

#### SCREW MACHINES.

2" Cleveland full automatic.

No. 90 Brown & Sharpe automatic.

1" Hartford full automatic.

2" Hartford full automatic.

No. 52 four-spindle National Acme.

No. 53 four-spindle National Acme.

No. 54 four-spindle National Acme.

No. 22 New Britain multiple spindle automatic.

No. 23 New Britain multiple spindle automatic.

No. 33 New Britain multiple spindle automatic, (2).

#### GRINDERS.

Gisholt tool grindet.

Warner & Swasey cock grinder.

26" Whitney wet grinder.

Type "DE" Hisey-Wolf internal.

Greenfield univ. cutter & reamer.

No. 10-18"-G Besly disc.

No. 1 Diamond face grinder, wheel 14" diameter.

Cincinnati, cutter and reamer, (2).

#### SHAPERS.

14" Fitchburg, traveling head.

12" Hendey, friction, (2).

16" Walcott Plain Crank.

24" Smith & Mills geared.

#### HAMMERS.

Coffman, post, power dr., 25 lbs., c. s.

100 lb. Cady, belt drop, c. s.

400 lb. 4 poppet Etna Machine Co. rope drop hammer.

#### GEAR CUTTERS.

No. 2 Whiton automatic.

36" No. 4 Brown & Sharpe auto.

26" No. 3 Brown & Sharpe auto.

#### KEYSEATERS.

Morton, draw stroke.

Mitts & Merrill, square frame.

No. 2 Mitts & Merrill, with posts and cutters.

#### MISCELLANEOUS.

Cold saws, 12" Burke, (2).

Cold saw, No. 2 Cochrane-Bly.

Cold saw, Higley.

Filing machine, Simplex.

Miller, No. 21 Garvin, b. g.

Planer, 42"x 42"x 16' Powell, 2 hds.

Saw sharpener, No. 10 Cochrane-Bly automatic.

Shears, 30" Niagara foot-power squaring.

Shears, 42" No. 142 Stoll, power squaring, new.



## SECOND-HAND MACHINERY

### FOR SALE BY

Frank Toomey, Inc.,

127-131 N. Third St., Philadelphia, Pa.

Machine Tools.

### LATHES.

- 12"x 5' Reed, foot power.  
13"x 5'6" new Carroll-Jamieson.  
13"x 7'6" new Carroll-Jamieson.  
14"x 6' new Carroll-Jamieson, quick change.  
14"x 8' new Carroll-Jamieson, quick change.  
15"x 6' new Sidney, d. b. g., quick change, swing 17" over shears, (6).  
17"x 8' new National, quick change, (20).  
17"x 8' new Sidney, d. b. g., quick change, swing 19" over shears, (4).  
19"x 8' new Sidney, d. b. g., quick change, swing 19" over shears, (6).  
19"x 8' new Sidney, d. b. g., quick change, swing 21" over shears, (6).  
20"x10' Blaisdell.  
20"x12' Schumacher-Boye.  
22"x10' Blaisdell.  
24"x20' Reed.  
25"x10' new Sidney, d. b. g., quick change, swings 27" over shears.  
25"x12' new Sidney, d. b. g., quick change, swing 27" over shears.

### VERTICAL BORING MACHINES.

60" Harrington.

| 36" table Newton.

### DRILLING MACHINES.

- 20" Rockford, high duty, (2).  
36" new Superior, sliding head.  
32" G. & E. sliding head.  
28" new Superior, sliding head.  
26" Rockford, sliding head.
- | 25" new Superior, sliding head.  
28" new Superior, sliding head, with tapping attachment.  
24" new Superior, stationary head.  
20" new Superior, stationary head.

### PLANERS.

- 84"x84"x32' Putnam, four heads.  
36"x36"x 8' Gray, two heads, (3).
- | 36"x36"x 8' Hamilton, two heads.  
36"x36"x 8' Pond, two heads.

### SHAPERS.

- 20" Niles-Bement-Pond, traveling head, two heads arranged for motor drive.  
20" Hendey, friction drive.  
16" new Steptoe, b. g.  
14" traveling head.

### SLOTTERS.

9" Sellers, with round table.

### MILLING MACHINES.

- No. 14 new American plain.  
24"x7½"x18" Oesterlein plain.  
No. 0 new Steptoe hand.  
Beaman & Smith vertical, table 24x72".

### GRINDERS.

- 8"x18" Landis plain.  
10"x24" Iroquis universal.
- | 12"x30" B. & S. universal.  
No. 1 Landis internal.

### HAMMERS.

- 250 lb. new Little Giant, belt.  
100 lb. new Little Giant, belt.  
75 lb. new Beaudry, belt.
- | 50 lb. new Little Giant, belt, (2).  
25 lb. new Little Giant, belt.  
250 lb. Sellers, steam.

### PUNCHES AND PRESSES.

- 18" throat Industrial double end punch.
- | No. 2 Stiles press.  
No. 1 Stiles presses, (2).

### MISCELLANEOUS.

- Broaching press, 30-ton Watson-S.  
Gear cutter, 36" G. & E., spur.  
Gear cutter, 8" Dwight, spur.  
Pitt lathe, 7' swing.
- | Profilers, No. 3 Garvin.  
Threading lathe, 16"x10' automatic.  
Thread miller, 4"x15" Cleveland.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Swind Machinery Co.,**

**Widener Bldg., Philadelphia, Pa.**

For Immediate Delivery.

Engine lathe, 13"x6' Worcester, in excellent condition.

Turret lathe, 24"x24 Jones & Lamson.

### NEW MACHINES.

Cold metal sawing machines, 34" (5).

Gear cutter, 36" automatic.

Oil grooving machines, (2).

Profile grinder, Fischer universal.

Shear, rotary ring and circle, capacity No. 10 gauge, circles 10" to 60" diam.

### FOR SALE BY

**The Enterprise Machinery Co.,**

**28-30 S. Clinton St., Chicago.**

Blower, G. City, 5', \$175; 3',...\$ 75.

Brake, D. & K., 8', 18 g..... 90.

Bulldozer, Blakeslee No. 3, 20' stroke.....2,100.

Drill, Quint turret, 2" cap. 22" 700.

Fan, exhaust, 50" Sturtevant... 50.

Fox lathe, like new..... 175.

Fox lathe, Monitor Am., good 275.

Grinder, 16"x36", pump, etc.... 400.

Grinder, ball race, ext. & int... 300.

Hammer, upright, Bradley..... 600.

Hammer, 200 lb. board lift..... 300.

Miller, No. 3 Cin. univ. d. h., fine condition..... 2500.

Lathe, speed, long slide rest...\$ 75.

Miller, Merritt, div. bd., hvy... 450.

Pipe threader, 4" self opening, 275.

Punch, shear & r. c. 4"x4" 125.

Punch, shear & r. c. 4"x4" new, immediate delivery..... 350.

Punch, shear & r. c. 1 1/2"x1" new 1050.

Punch press, 16" stroke..... 400.

Riveter, Grant, bench, like new 90.

Saw, band, Wm'son, good cond. 100.

Screw press, arch, 7' arm, hvy. 125.

Shaper, 18" Juengst, worm..... 350.

Turret lathe & air chuck..... 300.

500 other tools. Write us.

### FOR SALE BY

**Frank H. Parker Machinery Co.,**

**154 N. Morgan St., Chicago, Ill.**

Long Distance Phone, Monroe 5498.

Air comp., 807 cu. ft. steam...\$1200.

Air comp., 10x12 duplex belt... 75.

Air comp., vert. duplex, 6" cy., 75.

Air compressor, 8"x9" Rand... 110.

Bending rolls, 10', for 1/2" plates

Brake, 8', for No. 14 gauge..... 110.

Car wheel borer, vert., 42"..... 375.

Cold saw, 34" O. & C..... 125.

Drill, 6-sp. mult., No. 11 Nat'l 350.

Drill, 20-sp. mult., No. 6 Fox 3200.

Drill press, 24" vert., s. h., b. g. 225.

Drill press, 56" Niles vertical. 400.

Drill press, 20" vert., sq. base. 75.

Drill press, 18" vert. round base 80.

Drill press, 20" vert., friction. 75.

Drill press, 6-spindle, s. h.,..... 250.

Engine, steam, 38 h. p..... 100.

Engine, 11"x15" Erie high spd. 225.

Engine, 12"x15" Taylor h. spd., 275.

Gas engine, 12 h. p. Bachus... 100.

Gear hobbors, No. 3 Adams, (2), each..... 1000.

Generator, 72 k. w., a. c., and engine..... 1500.

Hack saws, pwr., 12" (4). each 15.

Hack saw, power, 18"..... 20.

Hammer, helve, 60 lb. L. & A. 300.

Lathe, 13"x 5' Davis, q. c. g., \$ 325.

Lathe, tool room, 14"x6" L. & S., t. a..... 800.

Lathe, 15"x 6' Sebastian, c. r., h. s..... 325.

Lathe, 18"x 7' Ames (old)..... 115.

Lathe, 18"x 8' Monarch, q. c. g. 700.

Lathe, 18"x10" Davis..... 675.

Lathe, 22"x28" Fifeild..... 225.

Lathe, eng., 24"x10"..... 800.

Lathe, 26"x16" Putnam..... 225.

Lathe, 28"x16" Harris (old).... 200.

Lathe, eng., 30"x16"..... 1100.

Lathe, chucks, 24" 3-jaw Horton, (5), each..... 40.

Miller, vertical, No. 4 Becker 900.

Motor, 30 h. p., 110 v., 850 r.p.m. 200.

Planer, 36"x36"x12', 3 heads... 2000.

Punch & shear, dbl. end, 18" thrt 800.

Radial drill, 4" Niles..... 2000.

Radial drill, 30", Light..... 400.

Screw mch., 4" Garvin No. 1... 175.

Screw mch., No. 2-G B. & S... 1200.

Shaper, 16" Steptoe, crank..... 350.

Shear, slitting, 1" cap..... 30.

Shear, slitting, 1" cap..... 110.

Have you any idle Machine Shop Equipment or Motors for sale?

## SECOND-HAND MACHINERY

### FOR SALE BY

**Oakley Machine Tool Company, Cincinnati, Ohio**

#### PLAIN GRINDING MACHINE.

One 14"x48" plain grinding machine, made by the Queen City Machine Tool Co., Cincinnati, 20 months' old, in constant use; massive construction, centralized control, single pulley drive; 12 work speeds and 12 traverse speeds independent of each other; large wheel spindle, hardened, ground and lapped with phosphor bronze bearings; all steel gears; 11 high-speed journals run on high-grade ball bearings; all other journals heat treated.

### FOR SALE BY

**Chas. Molitor Machinery Co., 118-124 S. Clinton St., Chicago, Ill.**

Immediate Delivery.

#### BORING MILLS AND RADIALS.

42" Bullard boring mill, 66" Prentiss radial.  
30" W. Gang Cincinnati radial, 48" Bement car-wheel borer.

#### MILLING MACHINES.

No. 2 LeBlond universal, 22x22"x 5' Newton slab miller, planer type.  
No. 1 Brainard pl., Lincoln type.

#### PLANERS.

36"x9' American, 24"x24"x6' Hendey.

#### SHAPERS.

24" Steptoe, 16" Barker, geared.  
15" Lodge & Davis, 12" Gould & Eberhardt.

#### PUNCH PRESSES.

No. 4 Consolidated, No. 2 Walsh.  
No. 4 Walsh, (2), No. 1 V. & O., (2).  
No. 3 Crosby, No. 0 V. & O.

#### DRILL PRESSES.

32" Barnes, sliding head, geared, 22" Prentiss, sliding head.  
24" Barnes, back geared, 20" Sibley-Ware Barnes, etc., (10).  
8" Andrew, 9-spindle, 6-spindle multiple Gardam.

#### LATHES.

18"x8' Schumacher & Boye, 16"x6' Rockford.  
18"x6' American, 16"x6' Lodge & Davis.  
18"x6' Greaves-Klusman, 14"x6' Lodge & Shipley.  
8" Hardinge bench lathe, 8" Elgin bench lathe.

#### SCREW MACHINES, KEY SEATER.

No. 3 Pearson, 14", 2" American, back geared.  
No. 1 Acme, 8", No. 2 Barnes screw press.  
No. 0 Foster, 9/16", 1-1/4" Davis keyseater.

#### SHEARS.

8" Niagara, foot power, 18 gauge, 30" Niagara.  
30" p. st. Wilcox, gap.

#### BRAKES.

8" p. st. Wilcox, 14 gauge, 4' Steel brakes, 14 gauge.  
8' Steel brakes, 18 gauge, (3).

#### MISCELLANEOUS.

Bulldozer and bending mch., vert., 8" stroke, 60" long, wt. 7000 lbs.  
Fender wiring machine, Yoder.  
Gear hobber, 18" Grant-Lees.  
Grinder, surface, No. 3 LaSalle, table 10x28.  
Grinder, 18"x36" Landis.  
Grinder, gear cutter, G. & E.  
Grinder, valve seat, 4-sp. Foote-Burt auto., adjustable.  
Large assortment of tinners' tools, electric motors and drills, buffing machines, grinders, arbor presses, lathe chucks, machinists' bench vises, gas furnaces, foot and lever presses, hack saws, air compressors, fans, bench drills, index centers, turret heads, anvils, tapping machines, etc.

## SECOND-HAND MACHINERY

### FOR SALE BY

**J. L. Lucas & Son, Inc.,**

**No. 3 Fox St., Bridgeport, Conn.**

#### SPECIAL PRESSES.

Corry & Little cloth or paper cutting press, movable platen 12x30.

Keystone die cutting press, size 24x36, almost new.

Old style punch and shear, having a 9" knife, 36" throat, geared and fine condition.

Bliss straight side power press, geared, similar to No. 75, 3" stroke, weight about 7 tons.

Alexander Traut embossing press, platen 18x24, in first class condition, used for leather or any embossing work.

Several small open die presses, 2 1/2" stroke.

Perkins inclinable power press, equal to new.

200 lb. Standard automatic drop hammer, in first class condition.

### FOR SALE BY

**Peninsular Machinery Co.,**

**110 Beaubien St., Detroit, Mich.**

Drill, 10" Hofer, friction disc.

Grinder, No. 1 LeBlond universal.

Grinder, drill and tool, Grand Rapids

Grinder, No. 3 Blount, emery.

Grinder, No. 6 Blount, emery.

Grinder, Blount, 14" wet tool.

Groover, No. 3 Niagara.

Hobber, No. 1 Adams-Farwell.

Lathe, 12"x 6" Prentice, eng., gd. hd.

Lathe, 16"x 8" LeBlond, eng., q.c. g.

Lathe, 17"x 6" LeBlond, rap. produc.

Lathe, 17"x 8" LeBlond, h. d. auto.

Lathe, 17"x10" LeBlond, automobile.

Lathe, 20"x10" LeBlond, engine.

Lathe, 26"x10" LeBlond, crank shaft.

Miller, No. 1 Van Norman, hand.

Miller, No. 1 U. S., hand.

Miller, No. 3H LeBlond, universal.

Press, No. 1 Michigan, o. b. i.

Shaft, Stow flexible.

Shaper, 24" Walcott, crank.

Sprue cutter, Gould & Eberhardt.

Straightening press, No. 10 hydraulic, 75 ton.

### FOR SALE BY

**The Motch & Merryweather Machinery Company,**

**711 Lakeside Av., N. W.**

**Cleveland, Ohio**

**Branches: Cincinnati, Detroit, Pittsburgh.**

#### AUTOMATICS.

2' Cleveland.

No. 22 New Britain, chucking.

No. 23 New Britain, chucking.

No. 33 New Britain, chucking.

#### CENTERING MACHINE.

Whiton, two spindle.

36"x9" Gould & Eberhardt.

36"x9 1/2" Whiton.

#### GEAR CUTTERS.

No. 1 Cincinnati, cutter grinder.

No. 4 Gardner disc grinder.

No. 12 disc grinder.

#### GRINDERS.

No. 70 Heald, internal.

No. 60 Heald.

10"x30" Landis.

#### HAMMERS.

35 lb. Williams & White power tire welding.

#### KEYSEATERS.

No. 2 Mitts & Merrill.

#### LATHES.

16"x 6" Lodge & Shipley, pat. hd.

16"x 8" Monarch.

16"x 8" LeBlond.

18"x 8" Lodge & Shipley.

18"x10" Monarch.

20"x 8" Bradford.

#### PRESSES.

No. 2 Consolidated, plain inclinable.

#### SAWS.

High duty Paragon.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Girard Machine & Tool Co., 491-493 N. Third St., Philadelphia, Pa.**

Engine lathe, 45"x24"x17' centers, New Haven, triple geared and geared face plate, cone drive, weight about 24,000 lbs.

Engine lathe, 25"x16"x17' centers, Blaisdell.

Engine lathes, 2x24 J. & L., gr. and set-over head, single pulley drive, bar equipment, (10).

Radial drill, 6' Drees semi-universal, cone drive.

Turret lathes, 2x26 P. & W., all feeds, oil pump, bar equipment, b. g., and friction head, (3).

Turret lathes, Cincinnati-Acme, 14"x9", automatic chuck, bar equipment, b. g. and friction head, (3).

Turret lathes, No. 3 Foster, 14" automatic chuck capacity, oil pan, pl. hd., (4).

Turret lathes, No. 3 Smurr & Kamen, 14" automatic chuck capacity, oil pump, automatic feeds to turret, plain head, (15).

Complete List No. 93, covering big stock, just off the press. All machines for immediate delivery.

### FOR SALE BY

**The Osborne & Sexton Machinery Co.,**

**Columbus, Ohio.**

#### LATHES.

9" to 13" Barnes, h. s., cp. r., new.

13-15-16 and 18 O. & S., h.s.c.r., new.

13"x 8' LeBlond, hollow spindle.

14"x 6' Hamilton, h. s., comp. rest.

15"x 6' LeBlond, hol. spdl., cp. rest.

16"x 6' Monarch, hol. spdl., gck. c.

18"x 6' Mueller, h. s. tur. on shears.

18"x 8' Bradford, hol. spdl., cp. r.

18"x8' Fitchburg, hol. spdl., cp. r.

20"x10' Monarch, hollow spindle, double back gear.

30"x12' Fitchburg, compound rest.

#### SHELL LATHES.

18 Shell Lathes for boring and turning, 24" and 30" swing, new and slightly used, immediate shipment.

#### TURRET LATHES AND SCREW MACHINES.

1" Garvin hand screw machine.

1 1/2" S. & K. hand screw machine.

1 1/2" S. & K. hand screw machine.

1 1/2" Tilted turret hand screw mche.

2x24 & 3x36 J. & L., dbl. equipment.

21" and 24" Gisholt turret.

#### SHAPERS AND PLANERS.

16, 18 & 24" Barker, back gear crank,

new.

25"x25"x8' Sellers, single head.

32"x22"x8' single head.

32"x32"x10' Niles, single head.

36"x36"x12' Lincoln, 2 heads.

36"x36"x18' Pond, single head.

#### PRESSES.

1000 lb. inclinable, 2 1/2" stroke.

No. 2 Sidney o. b. inclinable, 1600 lb.

Nos. 2 & 4 Toledo, o. b. inclinable.

5000 lbs. Garrison o. b. i. press.

Hydraulic, 37" between uprights.

Perkins, dbl. crank, 16x24 bolster.

Bliss, 42,000 lbs. toggle drawing.

Covington, 10' 6" between housing.

#### DRILLS AND RADIALS.

Henry & Wright sgl. spdl., high spd.

8-spindle, gang, adjustable centers.

3 1/2" Canedy-Otto plain radial.

4' Western full universal.

4' Bickford plain, sgl. pulley, gr. box.

4 1/2" Universal, cone drive.

4 1/2" Baush plain, cone drive.

Sensitive 1, 2 & 3 spindle.

24", 26" and 28" sliding head.

Quint 6-hole turret drill.

#### MILLING MACHINES.

No. 3 LeBlond hvy. duty univ., new.

No. 3 B. & S. heavy, plain.

No. 1 1/2 Valley City plain, new.

No. 3 Brainerd, 30x7 table.

#### GRINDERS.

No. 3 W. & M., surface, wet, new.

12"x36" Hartford, surface, new.

30x10 Webster & Perks, univ., new.

Cutter and reamer, W. & P., new.

Cutter, reamer and tool, new.

10x30 Landis plain.

#### MISCELLANEOUS.

Band saws, metal, 30" Wright, (2).

Bolt cutter, 1 1/2" dbl. spdl. National.

Borer, 42" car wheel, with hoist.

Boring mill, 32" Baush, turret hd.

Boring mill, 38" Bullard, sgl. hd.

Cut-off machine, 3" Davis.

Hammer, 50 lb. Bradley compact.

Hammer, 200 lb. Beaudry, upright.

Keyseater, 1 1/2" Catlin, new.

Squaring shears, 24, 30 & 36", 18 ga.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Brownell Machinery Co.,**  
 Drills, 20" Barnes, stationary head,  
 b. g., p. f.  
 Drills, new 24" Sibley, adjustable  
 head, (2).  
 Drop hammer, 500 lbs. stand. auto.  
 Gear cutter, 28" No. 3 B. & S. auto.  
 Gear cutter, No. 12 B. & S. auto.  
 Gear generator, 12" Gleason, single  
 tool.  
 Grinder, Greenfield universal cutter  
 and reamer, new.  
 Grinder, Norton universal cutter &  
 reamer, new.

**11-13 Eddy St., Providence, R. I.**

Grinder, No. 11 Atlas plain.  
 Lathe, 12"x8' Reed, r. and f.  
 Lathe, 16"x8' Flather, q. c. g., new.  
 Lathe, 16"x8' Draper, q. c. g. & tpr.  
 Milling machine, Reed, plain.  
 Milling machine, No. 2-A Garvin,  
 power feeds.  
 Rolling mill, 6x10 Mossberg, roller  
 bearing.  
 Screw machine, No. 2 Southworth,  
 1" capacity, new.  
 Screw machine, No. 4 Wood, g. f. h.  
 Shaper, 16" Smith & M., sgl. grd.

### FOR SALE BY

**B. C. Allen Machinery Co.,**

**1000 W. Randolph St., Chicago**

Arbor press, 12" Barnes..... \$ 50.  
 Band saw, 34" American..... 125.  
 Boring mch., 50" facing att..... 650.  
 Chucks, 5, 10, 15, 24".....  
 Cold saw, 6" Burr..... 135.  
 Drill press, 24" sliding head..... 225.  
 Drill press, 24" sta. head..... 150.  
 Drill press, 34" Barnes..... 550.  
 Drill, radial, 30" light..... 350.  
 Grinder, Yankee drill..... 60.  
 Hammer, 150 lb. steam..... 375.  
 Lathe, 14"x8'..... 275.  
 Lathe, 18"x12' Bradford..... 750.  
 Lathe, 18"x10' Bradfrod..... 850.  
 Lathe, 20"x8' c. r., p. c. f..... 300.

Lathe, 22"x10' LeBlond..... \$ 850.  
 Lathe, 28"x16' Fitchburg..... 450.  
 Lathe, 11"x4' Wells, speed..... 35.  
 Miller, No. 3 Burke, and col..... 100.  
 Miller, No. 3 Fox..... 260.  
 Pipe machine, 4" Armstrong..... 135.  
 Pipe machine, 6" Forbes..... 150.  
 Planer, 21"x21"x3'..... 250.  
 Planer, 24"x24"x6'..... 1000.  
 Press, foot..... 15.  
 Press, horn, adj. table..... 75.  
 Press, No. 3 Walsh inc..... 300.  
 Punch mach., 1/2"x3/4"..... 75.  
 Shaper, 16" crank..... 325.  
 Shear, 36" square..... 45.

### FOR SALE BY

**E. L. Easley Machinery Co., 551-557 Washington Blvd., Chicago, Ill.**

#### DRILL PRESSES.

12" Rockford upright.  
 No. 1 single spindle Avey.

1 spindle H. & W. high-speed.  
 2 spindle Slate sensitive.

#### GRINDERS.

No. 1 Cincinnati universal.  
 No. 1 Norton full univ. tool & cutter.  
 No. 1 Le Blond univ. tool & cutter.

4"x30" P. & W. sizing grinder.  
 No. 7 Ransom double disc.  
 No. 1 Besly disc.

#### LATHES.

28"x14' Hamilton, taper.  
 12"x10' Prentice Bros., taper att.  
 18"x8' Shumacher & Boye, q. c. g.  
 28"x10' American.

14"x 6' Hendy, q. c. g.  
 20"x10' Schumacher & Boye, taper.  
 36"x14' Bradford.  
 38"x20' New Haven.

#### SCREW MACHINES.

1" Cleveland automatics, (2).  
 No. 0 B. & S. automatic.  
 No. 1 Foster, plain head, cap. 13-16".  
 No. 2 Foster, geared friction head.

No. 4 Foster, plain head.  
 No. 24 Garvin, 1 7-16" cap., fric. hd.  
 1" Foster-Kimball, plain head.  
 1" Smurr & Kamen, plain head.

#### MISCELLANEOUS.

Boring mach., 3 1/2" Binsse horizontal.  
 Cold saw, No. 11 1/2 Higley.  
 Gear cutter, No. 12 B. & S. auto.  
 Gear cutter, 36" Flather.  
 Miller, No. 3 Rockford hand.  
 Miller, No. 1 Cincinnati plain.  
 Miller, Owen, duplex.

Pipe machine, 3" Stover.  
 Punch, No. 16C New Doty, sgl. end.  
 Punch press, No. 76 Toledo, o. b.  
 Punch press, No. 2C Consolidated  
 o. b. i.  
 Radial, 4' arm plain.  
 Shaper, crank, 20" Kelly.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Industrial Machinery Corporation, 90 West St., New York City**

#### TOOLS IN STOCK.

Automatics, 2" Cleveland model "A", used, (10).  
 Chucking lathe, B. & S. vertical, used.  
 Chucks, several new geared scroll chucks, 7½" to 18".  
 Cut-off machine, P. & W., variable speed.  
 Drilling machines, 4-spindle Allen high speed, new, (2).  
 Grinders, 36" Horner wet tool, (2).  
 Millers, universal, No. 1 Garvin, new, (2).  
 Millers, standard hand, with vertical attachments, new, (2).  
 Screw machines, hand, 1" Hercules, new, (5).  
 Screw machines, automatic, 1½" Chicago, used, (3).  
 Screw machines, automatic, 2" Chicago, used, (3).  
 Thread cutting lathe, Bridgeport automatic, used.

#### FOR DELIVERY IN SIX WEEKS.

Millers, universal, No. 2A Garvin, (2).  
 Screw machines, hand, No. 3 Newark, 1½" capacity, (10).

### FOR SALE BY

**A. D. White Machinery Co., 108-114 N. Jefferson St., Chicago.**

#### DRILL PRESSES.

24" Richards, new.	3-spd. W. F. & J. Barnes, gang.
25" Snyder, sliding head.	1-spd. Henry & Wright, h. s., b. b.
34" Barnes, sliding head.	8-spd. Valley City, No. 1 taper.
34" Hamilton, sliding head.	3-spd. American.

#### PUNCH PRESSES AND PUNCHES AND SHEARS.

No. 2 Walsh, o. b. i.	No. 6 L. & A. 4" thr., s. e., cap. 4"
No. 4 Niagara, o. b. i.	No. 15 Wms. & White, d. e., 12" thrs.
No. 4 Toledo, o. b. i.	Rock River s. e. 12" thr., cap. 3"
No. 29 Bliss, gang, dbl. action.	No. 2 L. & A., 24" thrs., d. e., cap. 1"

#### MILLING MACHINES.

22" Eynon Ingersoll, slab.	No. 2 Hendey Norton, universal.
No. 2 Becker, vertical.	No. 2-B Kearney & Trecker, univ.

#### SCREW MACHINES.

7-16" Cleveland, friction feed.	1" Cleveland.
1" Cleveland, friction feed.	1½" LaVigne.
1" Cleveland, friction feed.	1" Cleveland, semi-automatic.
1" Cleveland, jigger feed.	3" P. & W. automatic.
1" Hartford, (3).	

#### ENGINE LATHES.

10"x54" Davis.	28"x10' Fifold.
11"x 5' South Bend.	26"x25' Blaisdell.
14"x 6' LeBlond.	30"x14' Blaisdell.
16"x12' Beaman & Smith.	32"x14' Pond.
24"x10' Putnam.	

#### GRINDING MACHINES.

18" Ransom, disc.	Springfield, dbl. wheel, water.
Yankee Style "B", drill.	No. 2 Leland & F., water.
1½" Norton, floor, (2).	No. 38 Safety Emery Wheel Co.
1½" Safety Emery Wheel, floor.	plow grinder.
2" No. 7 Sterling, floor.	10x30" Landis plain.
2" Springfield, double wheel, floor.	Greenfield, cutter & reamer.

#### MISCELLANEOUS.

Boring machine, car wheel, No. 55 Industrial.	Keyseater, No. 0 Baker.
Bolt cutters, 1½ & 2" Acme, sgl. hd.	Keyseater, No. 2 Mitts & Merrill.
Die filing machine, Simplex.	Keyseater, 36" Morton portable.
Gas engine, 35 h. p. Columbus.	Oil gas generator, No. 3 American.
Gas engine, 55 h. p. Bruce McBeth.	Planer, 35"x35"x12' Niles, 2 heads.
Gear hobbers, No. 1 Farwell, (2).	Rivet spinner, 3/16" Grant.
Gear cutter, 24" Brainerd.	Saw, cold, No. 54 Nutter-Barnes.
Hammer, 500-lb. Sandage.	Shapers, new Kelly, 15"-24".

## SECOND-HAND MACHINERY

### FOR SALE BY

**Waltham Watch Company,**

**Waltham, Mass.**

#### DRILLING MACHINES.

6-spindle Allen ball-bearing, nearly new, (18).

1-spindle Allen ball-bearing, nearly new, (9).

Send all communications to Waltham Watch Company, E. B. Jackson, Purchasing Agent.

### FOR SALE BY

**G. L. Bennett Machinery Co., Inc., 30 Church St., New York City**

#### LATHES.

54"x22' triple geared, Worcester,

W. L. Co.

36"x21' compound g'd, f. p. drive,

Bement.

28"x21' D. W. Pond, heavy, c. r.

24"x21' New Haven, c. r.

24"x12' D. W. Pond, c. r.

20"x10' Flather, c. r.

18"x10' Flather, q. c. g'r.

16"x10' F. E. Reed.

16"x6' Hendey.

#### PLANERS.

62"x62"x22' Bement, 4 heads.

54"x54"x12' Pond, 4 heads.

52"x52"x20' New Haven, 3 heads.

36"x36"x18' Sellers, 1 head.

36"x36"x8' Putnam, 1 head.

32"x32"x8' Pond, 2 heads.

26"x26"x6' Putnam, 1 head.

#### SELECTED SPECIALS.

Boring machine, Fitchburg horiz.,

24" bar.

Boring mach., Horiz., Barrett type,

8" bar, 12' fd.

Boring mills, vert., 8' Standard, new;

12' Niles, 3 hd; 36" Bridgeport, 1 hd.

Car-wheel borer, 50" Sellers.

Car-wheel lathe, 42" Niles.

Millers, vert., No. 2 H. & J., rev.

table.

Drills, 36"-42" Gould & Eberhardt.

Pipe machines, 14" E., C. & B.; 6"

Jarecki.

Radial, 6" Niles full universal.

Shear, bevel plate, No. 2 Thomson.

Turret, 34" Gisholt, 44" hole, taper

attachment.

Turrets, W. & S., P. & J., Bullard

and others.

Also 50 other miscellaneous tools. Write requirements.

### FOR SALE BY

**W. J. Baird Machinery Co.,**

**265 Jefferson Ave., Detroit, Mich.**

Baird's Bargains in High-Grade Used Tools.

Bending rolls, pyramid type, 9' 4" between housing, cap. 4" plate.

Gear cutters, 26" No. 3 Brown & Sharpe automatic, (3).

Gear shapers, 36" Fellows, (2).

Grinder, 10"x36" Landis plain, self-contained.

Grinders, 8"x32" Norton plain, (2).

Grinder, No. 2 Bath universal.

Grinder, No. 6 Bryant internal.

Grinder, No. 6A Bryant internal.

Hammer, 400 lb. Toledo board lift drop.

Hammer, 600 lb. Toledo board lift drop.

Lathes, 24" Davis chucking lathes, (2).

Lathe, 26"x14" Rahn-Mayer-Carpenter, complete with 2 sets of raising blocks

36" and 50", taper att.

Press, No. 4 Consolidated inclinable.

Press, No. 4 Loshbough & Jordan inclinable.

Punch, Leighton & Hathaway, single end, with 36" throat.

Punch and shear, No. 2 Long & Allstatter, 24" throat.

Punch and shear, No. 5 Long & Allstatter, 4" throat.

Turret lathe, No. 2A Warner & Swasey, hollow hexagon.

Turret lathe, No. 3A Warner & Swasey, hollow hexagon.

Turret lathe, 3"x36" Jones & Lamson flat turret.



## SECOND-HAND MACHINERY

### FOR SALE BY

**Niles-Bement-Pond Company, - 111 Broadway, New York**  
**Located at Chicago, Boston and New York**

#### LATHES.

15"x 7' P. & W. speed lathe. | 16"x 8' VonWyck, quick change.

#### TURRET MACHINES.

3" 4-spdl. old style Acme auto. | 24" size 1 Gisholt, 220 v., d. c., m. d.  
 1" Spencer single turret automatic. | 28" Milwaukee turret lathe.  
 2"x24" Jones & Lamson, cone head.

#### PLANERS.

20"x20"x 6' Pratt & Whitney. | 30"x30"x 8' Pond, 2 heads.  
 24"x24"x 8' Pratt & Whitney. | 30"x30"x10' Pond, 2 heads.  
 30"x30"x 6' Pond, 2 heads. | 30"x30"x14' Pratt & Whitney, 1 hd.

#### DRILLING AND BORING MACHINES.

60" Niles gooseneck drill. | 3' Grant radial drill and boring mch.  
 14" 4-spindle turret drill. | 2" sp. old style horizontal boring and  
 17" 4-spindle gang drill. | drilling machine.  
 No. 5 Dallet portable drill.

#### MISCELLANEOUS.

Crane, 20 ton, 41' span, 220 v., d. c. | Grinder, wet, dbl., 24" cup wheels.  
 motor. | Grinder, 16"x66" No. 4 Landis univ.  
 Gear cutter, spur and bevel, 24" | Miller, plain, No. 22 Brainard, b. g.,  
 Newark. | range 29x74x20".  
 Gear cutter, spur, 42" Bement. | Miller, slab, No. 6 P. & W., table  
 Gear planer, bevel, 42" Gleason, old | 42"x17"  
 style. | Radial, 5' Niles semi-univ.  
 Grindstone, 34" Cleveland. | Radial, 6' Niles semi-univ.  
 Grinder, wet, saw, No. 1 Tindel. | Shaper, crank, 12" Bement.  
 Grinder, cutter, No. 1 Cincinnati.

### FOR SALE BY

**Harris Brothers Company, - 35th & Iron Sts., Chicago, Ill.**

#### ROLLS, PUNCHES AND SHEARS.

Bending clamps, plate, 12' Niles.  
 Bending rolls, 8' and 12'.  
 Bending rolls, angle iron, 4x4x3 angles, weight about 14,000 lbs.  
 Punch, Long & Allstatter, 15" throat, 1" through 1".  
 Punch, Queen City, 66" throat, 4" through 1".  
 Punch presses, Nos. 18, 19, 20 and 21 Bliss and No. 5 R. & K., o. b. i.  
 Shear, 1" Lennox rotary bevel.  
 Shear, Lennox rotary plate splitting; will shear 1" thick to center of 16".  
 Shears, Wiener & Pels steel plate, angle and I-beam; will shear 15" beams.

#### MISCELLANEOUS.

Drill presses, 20", 26", 28", 30" and 36" Barnes.  
 Hammers, 400 and 800 lb. board drop.  
 Lathe, 14"x24" Barnes gap lathe, 5' centers.  
 Lathe, 14"x 6' Springfield.  
 Lathe, 16"x10' Greaves-Klusman.  
 Lathe, 20"x12' Lodge & Shipley, q. c., taper att., a. c. motor drive.  
 Lathe, 30"x16' Lodge & Shipley q. c. engine lathe.  
 Lathe, 48"x24' Fifield engine lathe.  
 Miller, slab, Ingersoll, 48" between housings, bed 36" wide, 12' long.  
 Planer, open side, traveling head, Pedrick & Ayer, head on cross rail travels  
 25" outward and 6' on bed, with two removable tables.  
 Screw machines, 6", 8", 14", 2" and 24" Cleveland automatics.  
 The above are selected from a list of one thousand different items in the machinery line. Our stock is the largest on earth.

Ask for our Machinery List AH-305.

## SECOND-HAND MACHINERY

### FOR SALE BY

**The Cincinnati Ball Crank Co.,**

**Oakley, Cincinnati, Ohio**

Automatic, 2½" single spindle Gridley, equipped with G. E. variable speed motors, one for driving work spindle, the other for driving the feed.

Hot swaging machine, No. 6 Langelier, with rotary furnace.

Hot swaging machine, No. 7 Langelier, including accumulator and pump for operating work slide.

Milling machine, No. 1½ Cincinnati.

Screw machines, hand, 2½" Dreeses, (4).

Screw machine, hand, 1½" Dreeses.

Screw machine, hand, 1½" B. & O.

Screw machine, Cleveland automatic, old style jigger feed, 2" chuck cap.

Turret lathe, 1½" Dreeses.

### FOR SALE BY

**Badger-Packard Mchy. Co., 133-139 W. Water St., Milwaukee, Wis.**

#### LATHES.

11"x5' No. 30-P Star, foot pwr., (2).

13"x8' South Bend, standard.

14"x8' American, standard, s. b. g., 4-step cone.

16"x8' Flatther, quick change.

16"x8' LeBlond std., s. b. g., 4-st. c.

18"x10' Blaisdell, c. r., solid sp.

22"x10' Pond, s. b. g., 4-step cone, loose change gear.

#### MISCELLANEOUS.

Air compressbr, Gardner "Midget."

Air hammer, Boyer, ½" capacity.

Arbor press, Lourie type B. special, power.

Bolt cutter, No. 5 Detrick & Harvey, double head, 2" capacity.

Drill, 25" Aurora, back geared, sliding head, g. p. f. and tap. att.

Drill, gang, 21" Hoefler 3-spindle.

Grinder, No. 3 B. & S. univ. cyl.

Hack saw, No. 7 Racine h. s.

Hack saw, No. 1 Marvel.

Hammer, drop, 100 lbs.

Oven furnace, No. 1 Stewart, with blower.

Planer, 24"x20"x5' New Haven, s. h.

Rivet spinning machine, Grant, 110 v., d. c. motor driven, 3/16" cap.

Shear, Pexto gap f. p. squaring, 36" cap., for 18 ga. iron.

Turret lathe, No. 2-A Warner & Swasey, hollow hex., with c. s.

### FOR SALE BY

**The O'Brien Machinery Co.,**

**119 N. Third St., Philadelphia, Pa.**

Boring mill, Sellers horiz., 60" swing, 2½" spindle.

Drill, 24" Richards, sl. hd., b. g., p. f.

Drill, 8-spindle Baush multiple.

Drill, 32" Blaisdell, b. g., p. f.

Gear cutter, 48" Bement, spur.

Grinder, Gisholt, cutter.

Hammers, 50 lb. upright belt. (2).

Hammer, 1000 lb. Waterbury Farrel

Foundry Co. board drop

Lathe, 16"x9' Lehman.

Lathe, 18"x8' Cincinnati.

Lathe, 18"x8' Cisco.

Lathe, 21"x14' New Haven.

Lathe, 26"-48"x14' McCabe dbl. sp.

Planer, 16"x16"x3' New Haven.

Planer, 24"x24"x6' N. Y. Safety.

Press, 34" throat Bliss geared, weight

6000 lbs.

Press, EG Ferracute, toggle type, 400 ton pressure.

Planer, 30"x30"x10' Sellers.

Press, EG Ferracute, toggle type, 600 ton pressure.

Press, Stiles & Parker toggle joint drawing press, wt. about 3000 lbs.

Press, straight solid back geared, abt. 8,500 lbs.

Rifling mch., horiz. boring or rifling mch., wt. about 10,000 lbs.

Saws, 30" Espen Lucas, mtr. dr., (2).

Screw machine, 24" Cleveland auto.

Screw mch., No. 22 Garvin wire feed turret lathe.

Shaper, 12" Bement.

Shaper, 16" Smith & Mills, plain.

Shaper, 18" Cincinnati, b. g.

Spinning lathe, No. 5 Bliss auto., 22" swing.

Spinning lathe, 44" swing, heavy duty.

Turret lathe, 1" w. f. W. & S. plain.

## SECOND-HAND MACHINERY

### FOR SALE BY

**J. L. Lucas & Son, Inc.,**

**No. 3 Fox St., Bridgeport, Conn.**

Bolt cutter, 3" Acme, 1 set dies, good condition.....	\$ 250.
Lathe, 60"x 9' gap lathe, compound rest.....	900.
Lathe, screw cutting, 38"x27" Putnam, compound rest, raised to 60".....	3,500.
Milling machines, Ames, Lincoln pattern, in good order, (10), each.....	150.
Screw machine, hand, No. 6 Brown & Sharpe, friction head, power feed to turret, good condition.....	500.
Shear, 36" gap shear, gear driven, weight 5 tons, excellent shape.....	1,350.

Send for List No. 41.

### FOR SALE BY

**Broadway Machinery Co., 236-238 Broadway, Cincinnati, Ohio**

#### MILLING MACHINES.

No. 1½ Cincinnati universal.	No. 3 Cincinnati plain.
No. 2 Owen universal, complete.	

#### GEAR CUTTERS

Gould & Eberhardt universal.	36" Flather automatic plain, (2).
Whiton automatic, universal.	26" Cincinnati automatic.

#### PUNCHES.

Bertsch b. g. punch, 14" throat.	Bertsch b. g. punch, 24" throat.
----------------------------------	----------------------------------

#### GRINDING MACHINES.

16"x48" B. & S. planer type, (2).	No. 2 Bath universal.
12"x48" Modern universal.	No. 2½ Bath universal.

#### BORING MILLS.

36" American, 2 heads, (2).	62" King, 2 heads, (2).
42" King, 2 heads, (4).	

#### MISCELLANEOUS.

Lathes, 12"x4' to 30"x14'.	Planer, 30"x6' Lodge & Davis.
Planer, 24"x8' Lodge & Davis.	Radial, 5' Bickford.

### FOR SALE BY

**Herman L. Winterer,**

**943-53 N. Front St., Philadelphia, Pa.**

#### LATHES.

60"x12' geared plate.	18"x 8' Blaisdell.
30"x40"x22" New Haven.	18"x 8' Pond.
24"x10' Lodge & Shipley, q. c. g.	18"x 6' Pond.
21"x14' Blaisdell, b. g.	16"x 6' Lodge & Davis.
20"x 8' Putnam.	17"x 6' Johnson, (2).
20"x 8' Perkins.	16"x 6' Flather.
18"x 8' Schumacher & Boye, q. c. g.	16"x 7' Lodge & Shipley, q. c. g.
18"x 6' Flather.	14"x 6' LeBlond.
19"x 8' LeBlond, (2).	And many others.

#### TURRET LATHES.

7"x14" Potter & J., semi-auto., (2).	27" chucking lathe.
3"x28" Lodge & S., chucking lathe.	2"x24" Jones & Lamson flat turret.

#### MISCELLANEOUS.

Boring mill, 36" Barrett hor., 3" bar.	Grinder, tool room, Heald univ.
Boring mill, 38" dbl. spld., Beaman & Smith, adj. head.	Grinder, roll, 54"x10½" Diamond.
Grinders, disc, No. 17 Besly, (2).	Oil separator, 16" Springfield.
Grinder, disc, 15" Baylon.	Saw sharpeners, (4).

**Large assortment of Boilermakers' and General Machinery.**

Send for complete list.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Lehmann Machine Co.,** 606-12 S. Broadway, St. Louis, Mo.  
**CIRCULAR COLD METAL SAW.**  
One No. 12 Higley, including two 15" saws. Good condition, \$275.

### FOR SALE BY

**J. L. Lucas & Son, Inc.,** - **No. 3 Fox St., Bridgeport, Conn.**

Lucas List of Machinery hard to find.

Boiler, 150 h. p. Bigelow, h. r. t., butt strap.  
Engine, 16x48 Rollins Corlis, fine shape.  
Furnaces, oil fire, brass and aluminum melting.  
Grinders, ring, Heald, 8" magnetic chuck, (3).  
Hammer, 920 lb. Merrill Bros., board lift.  
Hammers, 500, 600 and 1500 lb. B. & S., board lift.  
Header, 4" solid die, double stroke.  
Header, 4" Waterbury Farrell, double stroke.  
Lathe, 30"x12" Putnam, h. s., compound rest, chuck.  
Lathe, 38"x27" Putnam, raised to 60", compound rest, etc.  
Lathe, 60-30" Pit lathe, 9' bed, compound rest, etc.  
Milling machines, plain Lincoln manufacturing, (15).  
Planer, 26"x16" Pond, one head.  
Presses, special; send us your wants.  
Radial drill, 3 1/2", power feed, new.  
Shaper, 24" Chase, worm drive, fine shape.  
Shear, gap, 36" throat, overhauled.  
Tank, 50"x16" pressure tank, with dome, 3" heads.  
Tank, 60"x21" oil storage.  
Wire former, 4-way, 3/16" wire; one for 1/16" wire.

## Second Hand Machinery

### BORING MACHINES.

30" Bullard vertical, belt feed.  
Moline-Beaman & Smith four spindle cylinder borer.

### DRILLING MACHINES.

3-No. 1 Mechanics friction. | 20" Prentice upright, lever feed.  
3-sp. Sipp high spd. b. b. sens. | 28" Prentice bk. gra. p. f., al. hd.

### LATHES.

15"x6" Johnson, comp. r., taper. | 18"x10" Draper, grd. hd., comp. r.  
16"x 6" Fifield, pl. change gears, | 2-18"x10" Am., comp. r., q. c. g.  
rise and fall rest. | 20"x12" Am., comp. rest., q. c. g.  
16"x 6" Seneca Falls "Star", c. | 20"x13" New Haven.  
r., q. c. g., taper att., pan bed. | 24"x12" Reed, compound rest.  
16"x 8" L. & S., pat. hd., q. c. g., | 60"x26" Thayer & Houghton, c.  
taper att., pan bed, var. sp. c. s. | r., d. b. g., tr. grd. face plate.

### PLANERS.

36"x36"x8" Niles, 1 head, first-class condition.  
36"x36"x8" Niles, 1 rail head, 1 side head, parallel drive.

### MISCELLANEOUS.

Keyseater, No. 1 Baker. | Shaper, 12" Springfield.  
Slotter or shaper, 22" stroke, | Thread miller, 5" Milled Screw  
horizontal. | & Machine Co.

## Marshall & Huschart Machinery Co.

17 S. Jefferson St.,  
Chicago, Ill.

915 Chemical Bldg.,  
St. Louis, Mo.

# 18 New Cleveland Automatics

**In Stock—Immediate Delivery**

**10% BELOW LIST PRICES**

- 1—2' Cleveland, Model A, oil feed.**
- 6—2' Clevelands, Model B, oil feed.**
- 4—2'-2½' Clevelands, Model A, oil feed.**
- 3—2½'-3¼' Clevelands, Model A, oil feed.**
- 4—2½'-3¼' Clevelands, Model A, oil feed.**
- 1—No. 22 New Britain Chucking.**
- 1—No. 33 New Britain Chucking.**

## GRINDERS (NEW)

- 2—8" Model A Persons-Arter Rotary Surface.
- 2—12" Model A Persons-Arter Rotary Surface.
- 6—No. 34" Van Norman Automatic Ball Race Grinders.
- 1—6x20" Fitchburg Model A (Power Feed), Plain Cylindrical.
- 1—6x30 Fitchburg Model A (Power Feed) Plain Cylindrical, (May 20th).
- 1—6x20" Fitchburg Model B (Hand Feed) Plain Cylindrical.
- 1—No. 2 Reid Surface (May 20th).
- 1—¾" capacity Yankee Drill Grinder. (In transit).
- 1—¾" capacity Yankee Drill Grinder. (In transit).
- 1—No. 3 Wilmarth & Morman Surface Grinder. (In transit).
- 1—No. 120 Gardner Disc Grinder.
- 1—No. 2 Gardner Disc Grinder, ball bearing.
- 1—No. 2 Gardner Disc Grinder, ball bearing, with universal lever attachment.
- 1—No. 2 Blount Emery Floor.

## LATHES (NEW)

- 2—14"x8' AMTEW Heavy Duty Engines.
- 4—7x32 Potter Precision Bench Lathes with Compound Rest.

## GEAR HOBBERS (NEW)

- 2—No 1 Adams-Farwell, each with 4 extra change gears.

## HAND MILLERS (NEW)

- 3—No. 2 Pratt & Whitney, with overarm and vise.
- 2—Wisconsin, with overarm and vise.

## DRILLS (NEW)

- 17—No. 2 single spindle Avey, high speed ball bearing.
- 7—No. 2 2 spindle Avey, high speed ball bearing.
- 5—Demco 5/16" capacity, high speed ball bearing Bench Drills.
- 1—Demco ¾" capacity, high speed ball bearing Floor Drill.

## MISCELLANEOUS (NEW)

- 1—No. 3 Ajax 30" Hot Saw, 10 h. p. motor wound on shaft, 2-ph., a. c., 220-440 v.
- 1—12" Ingle Tooth Rounding Machine.
- 1—No. 3 Toledo Electric Welder, Butt, 15 K. W., 220 volt, 60 cycle.
- 1—No. 1 Manville Cold Header, double stroke solid die.
- 1—No. 1 Manville Thread Roller, capacity 3/16" dia., 1" long.
- 1—Spring Coiling Mch., Coulter & McKenzie, cap. 3/16"x1"x12' cold steel.
- 1—No. 80 Grant Rivet & Rolling Mach., capacity 3/16" diameter.
- 1—No. 2 Greenerd Arbor Press.
- 1—Baird Horizontal Tumbling Barrel, 20"x30".
- 5—No. 14 Globe Tumblers, 20"x14"x22" deep.
- 2—Rust-proof Tanks, 26"x26"x8' long, lead lined.
- 1—Brown & Sharpe Soda Kettle, 29"x22", 60 gal., capacity.

## PUNCH PRESSES (USED)

- 1—No. 5 Merriam fly wheel press, stroke 1½", weight 4500 lbs.
- 1—No. P-4 Ferracute fly wheel press, stroke 1½", weight 7000 lbs.
- 1—No. 5 Stiles & Parker (Bliss) fly wheel press, stroke 1½", weight 8600 lbs.
- 2—No. 75 Bliss fly wheel presses, stroke 2", weight 5600 lbs.

*Other machine tools constantly arriving for stock. Send us your inquiries.*

**Carpenter & Woodward, Inc.**  
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## Machine Tools That Produce

18"x8' Fitchburg Engine Lathe, with Taper Attachment.

3/4" Livingston Hand Screw Machine, practically new.

30"x30"x8' Whitcomb-Blaisdell Planer, Second Belt Drive.

Modern 5"x32" Plain Grinder, Mfg. Size No. 12

**Lynd-Farquhar Company**  
Boston, Mass.

## Big Tools

1—60"x20' Shellenback H. D. Engine Lathe.

1—60" Bickford Vertical Boring Mill.

1—No. 5 Williams & White Bulldozer.

1—No. 6 Williams & White Bulldozer.

1—No. 3 Baker Bros. D. S. Drill Press.

1—60"x44"x16' Patch Planer, 4 heads.

*The above in stock for immediate delivery*

**Riverside Machinery Depot**  
25 St. Aubin Ave., Detroit, Mich.

# Riverside Machinery Depot

**We Own Every Tool Offered**

## LATHES

- |  |                                     |
|--|-------------------------------------|
| 60"x20' Schellenbach, h. d.                    | 16"x 8' Springfield, q. c. g., new. |
| 24"x12' Springfield Ideal, q. c. g., new.      | 16"x 6' Springfield, q. c. g., new. |
| 18"x 8' Springfield Ideal, q. c. g., new, (2). | 16"x 6' Le Blond, q. c. g., t. a.   |
| 20"x 8' Mueller.                               | 16"x 6' Reed, (2).                  |
| 20"x 6' Rahn & Larmon, q. c. g., (2).          | 14"x 6' Amtew standard, (2).        |
| 16"x 8' Porter standard.                       | 13"x 8' Barnes standard, (2).       |
|  | 9"x 4' Sebastian standard lathe.    |

## TURRET AND SCREW MACHINES

- 3x36 Jones & Lamson turret lathes, (4).  
 No. 6-A Potter & Johnston automatics, (2).  
 41" Gridley s. s. automatic.  
 No. 4 Foster f. g. h. hand screw machine.  
 No. 3 Smurr & Kamen hand screw machines, (3).  
 No. 2 Smurr & Kamen p. h. hand screw machines, (3).  
 14" Pierce turret lathes, new, (3).  
 12" Warner & Swasey p. h. turret lathes, with air chucks, (4).  
 1x8 Pierce hand screw machines, new, (3).  
 16" Warner & Swasey p. h. turret lathes, with air chucks, (4).  
 No. 107 Wells hand screw machines, (4).  
 2" Cleveland automatic screw machines, jigger feed, (2).  
 4-1" Cleveland automatic screw machine.

## GRINDERS AND MILLING MACHINES

- |                                       |                                    |
|---------------------------------------|------------------------------------|
| No. 60 Heald cylinder grinder.        | No. 14 Becker universal miller.    |
| No. 1 Landis internal grinder.        | No. 0 Brown & Sharpe plain miller. |
| No. 6 Bryant internal grinder.        | No. 14 Kempsmith plain miller.     |
| No. 14 Amer. plain millers, new, (3). | No. 13 Garvin miller.              |

## GEAR CUTTERS

- |                                       |   |
|---------------------------------------|---|
| No. 6 Fellows gear shaper.            | No. 13 Brown & Sharpe automatic spur and bevel gear cutters, (2). |
| 3-26 Brown & Sharpe auto., spur, (6). |   |
| 3-36 Brown & Sharpe auto., spur, (2). |   |

## PLANERS, BORING MILLS AND SHAPERS

- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| 60"x44"x16' Patch. 4 heads, planer. | 26" Davis & Egan geared shaper.     |
| 36"x36"x12' New Haven, s. h.        | 20x20x5 Hendey shaper.              |
| 24" Milwaukee shapers, new, (2).    | 20" G. & E. crank shaper.           |
| 16" Milwaukee shapers, new, (2).    | 18" Hendey grd. pillar shapers (2). |
| 20" Hendey geared shaper.           | 60 Bickford boring mill.            |

## DRILL PRESSES

- |                                      |                                   |
|--------------------------------------|-----------------------------------|
| 2-spindle Baker, h. d.               | 14" Henry & Wright, h. s.         |
| 16-spindle Natco drill.              | Almond flexible arm radial, t. a. |
| 20" Buffalo, b. g., p. f., new, (3). | 34" Canedy-Otto plain radial.     |
| 20" Buffalo, new, (3).               | 14" U. S. plain drills, new, (2). |
| 32" Cincinnati, b. g., t. a.         | 20" Excelsior.                    |
| 35" New Haven, b. g.                 |                                   |

## PRESSES AND HAMMERS

- |                                    |                                    |
|------------------------------------|------------------------------------|
| Waterbury-F. b. g. heavy, o. b. i. | 800 lb. B. & S. roll board hammer. |
| No. 3-W Bliss wiring presses, (3). | 800 lb. P. & W. roll board hammer. |
| No. 34 Bliss s. s., b. g. press.   | No. 5 Williams & White bulldozer.  |
| No. 39 Bliss horning press.        | No. 6 Williams & White bulldozer.  |

## STEAM ENGINES

- 20x42 Huettelman & Kramer r. h. heavy duty Corliss engine.  
 15x20 Russell r. h. automatic girder frame engine.  
 13x18 Erie r. h. 4-valve automatic engine.  
 10x16 Brownell r. h. automatic engine.

**We also carry a large stock of Steam Pumps, Electrical Equipment, and are in the market to purchase good equipment of all kinds.**

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## AIR RIVETER

12-ft. Gap (Bull), capacity for Driving 1½-in. Rivets, complete with Air Crane, 20-tons capacity. Still in operation. (More efficient than the regulation Hydraulic Bull.)

## PLATE PLANER

Capacity for handling 18-ft. Plates, "Hilles & Jones" style.

## AIR RIVETER

Portable style, 19-in. gap, capacity for driving 1¼-in. Rivets.

## NEW PUNCH & SHEARS

Single-end, Interchangeable.  
50-in.—42-in.—36-in. Throats, Latest Improved—Heavy Pattern—Punching capacity 2-in. hole thru 1-in. Plates.  
(All for early Delivery—now finishing.)

## PLANERS

30-in.x6-ft. Pond, one head.  
26-in.x8-ft. Pond, one head.  
24-in.x6-ft. Pond, one head.

## MORE DESIRABLE TOOLS

Multiple Drill, 4-spindle, Niles for heavy work.

Combination Slotter and Key-seater, 30-in. stroke, Baker Bros.

Upright Boring Mill, 36-in. Swing, Turret head, for boring only Brown & Sharpe.

Lincoln Type Milling machines, Tables 28-in.x7-in.

14-in. Throat Punch, Single-end.

50-ton Hydraulic Press.

60-in. gap Hor. Punch, Hilles & Jones, Planer type Milling Mch. 36-in.x14-ft., Newton.

Planer type Milling Mch. 24-in. bet. housings, 6-ft. Table, Horizontal spindle only, Bement.

Cutting-off and Centering Mch., 10-in. round cap'y, Bement.

Shaft Straightening Machine, for shafts up to 32-ft. Medart.

Drop Hammer, 900 lbs. Wms. & White.

Cold Saws—20-in.—15-in. and 12-in. Blades, Higley.

## HORIZONTAL CYLINDER BORER

"Barrett" 5-in. Boring Bar, Automatic feeds in either direction 48-in., having capacity for boring and facing both ends of Cylinder at same time, complete with Auxiliary Table and lot of extra Tools—All just like new.

## FLAT TURRET LATHES

3x36-in. "Jones & Lamson," (arranged for Motor), Sliding head.

3x36-in. "Jones & Lamson" Geared Sliding-head, Single Pulley Drive.

2x24-in. "Jones & Lamson" Cone-hd.

## GEAR PLANERS (2)

"Gleason Tool Co.'s" with capacity for cutting Bevel-gears up to 24-in. in diam.,—used in one of the best Eastern Tool-shops.

## GEAR SHAPER

"Fellows Gear Shaper Co.'s" with capacity for cutting Spur Gears up to 36-in. in diam. and Internal Gears up to 28-in. in diam.



26-in.x8-ft. Pond, one head.  
24-in.x6-ft. Pond, one head.

Cold Saws—20-in.—15-in. and 12-in.  
Blades, Higley.

36-in. in diam. and Internal Gears up  
to 28-in. in diam.

### TURRET LATHES & SCREW MCHS.

28-in. Swing. "Pond" Rigid type, 4-in.  
hollow-spindle.

20-in. Swing, Potter & Johnston, full-  
automatic.

21-in. Gisholt, gap style.

1 1/4-in. Wire-feed Bardons & Oliver.

3/4-in. Wire-feed Garvin.

#### "USED" LATHES

60-in.x12-ft. bed, Triple-g geared.

36-in.x20-ft. bed, Putnam.

30-in.x14-ft. bed, Bement-Miles.

26-48-in.x16-ft. Dbl.-spdl., McCabe.

26-in.x18-ft. bed, Pond.

24-in.x15-ft. bed, Bement.

24-in.x12-ft. bed, Putnam.

22-in.x10-ft. bed, Niles.

18-in.x10-ft. bed, Draper.

18-in.x 8-ft. bed, Bridgeport.

16-in.x 8-ft. bed, Rockford.

16-in.x 6-ft. bed, LeBlond.

### UNIVERSAL GRINDING MACHINE

"Iroquois", for Cylindrical work, Swings  
12-in. and takes 36-in between Centers.

Rotary Bevel-Shears, 3/4-in. Lennox.  
450-ton Hydraulic Flanging Press.

Bement-Miles.

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pointments" here at Mc-  
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every machine right in  
stock here at our ware-  
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**UNIVERSAL GRINDING MACHINE**  
"Landis" Tool Co.'s, for Cylindrical  
work Swings 12-in. and takes 66-in.  
between Centers.

### RADIAL DRILL

"Bickford" Heavy pattern, 4 1/2-ft. Arm,  
Speed-box, Single-Pulley-drive.

### NEW LATHES

All-Steel Quick-change Gear Box—  
3-Cone—Double Back-gears.

16" Swing, 6, 8 and 10-ft. Beds.

18" Swing, 8, 10, 12 and 14-ft. Beds.

21" Swing, 6, 10, 12 and 14-ft. Beds.

26" Swing, 12, 14, 16 and 18-ft. Beds.

26 and 48-in. Swing McCabe Double  
spindle Lathes—12 and 30-ft. Beds.

### NEW RADIAL DRILLS

4-ft. Arm, Speed-box.

3 1/2-ft. Arm, Speed-box.

2 1/2-ft. Arm, Speed-box.

### NEW SHAPERS

32-in. stroke, Back grd. Speed-box.

28-in. stroke, Back grd. Speed-box.

25-in., 20-in., 16-in. Back-geared.

16-in., 14-in., 12-in. Plain.

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**Hartford, Conn.**

*Manufacturers' Representatives for*

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Machine Keys, Etc.

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**Large Stock—Central Location**

We carry on our floors at Hartford the largest stock of new machine tools of reliable makes in central New England—in other words, between Boston and New York.

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**New England Dealers,**

**Hartford, Conn.**

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| 1—New No. 0 Giddings & Lewis Horizontal Boring Mill.            | 30—20"x8' Rolsted Turret Lathe.                  |
| 1—84"x48"x14' Young & Farrell Planer, 2 heads.                  | 1—Rockford Heavy Duty Drill.                     |
| 1—42"x36"x10' Fitchburg Planer, 1 head, arranged for two.       | 1—New 25x18' Sidney Lathe.                       |
| 1—14"x8' Perkins Lathe, complete.                               | 1—9' Pitt Lathe.                                 |
| 1—No. 15 Garvin plain Miller.                                   | 1—42" Niles Car Wheel Borer.                     |
| 1—4' Dreeses Pl. Radial, cone drive.                            | 1—14" Walcott Crank Shaper.                      |
| 1—20' Bullard Vertical Boring Mill, 1 side head, 1 turret head. | 1—2 1/4" Gridley Motor Drive 220 V. Automatic.   |
| 1—No. 2 Whiton Gear Cutter.                                     | 1—5' 6" Niles Radial Drill.                      |
| 1—74"x48"x15' Planer, 2 heads.                                  | 1—14x5 Putnam Lathe, C. R.                       |
| 1—67"x48"x15' Planer, 2 heads.                                  | 1—No. 4 Incluable Press.                         |
| 1—38"x36"x12' Planer, 3 heads.                                  | 3—25"x25"x6' Sellers Planers.                    |
| 1—Bement Horiz. Boring Mill, 2 1/2" bar.                        | 1—10' Gould & Eberhardt Crank Shaper.            |
| 1—38"x16' David W. Pond Lathe, complete.                        | 1—3 1/4x36 Jones & Lamson Chucking Lathe.        |
| 1—7' Bickford Vertical Boring Mill, 2 swivel heads.             | 1—West 3" Hydraulic Banding Mch.                 |
| 1—No. 2 Walker Universal Grinder.                               | 2—2 1/2x36" Marvel Lathes.                       |
| 1—6' Baush Pl. Radial Drill, tap. att.                          | 2—25x25x8' Sellers Planers.                      |
| 1—New No. 3 Cincinnati Pl. Miller.                              | 2—14" Hendey Friction Shapers.                   |
| 1—No. 69 Bliss Pr., Fly wheel 45x5 1/2".                        | 2—18" Hendey Friction Shapers.                   |
| 1—34"x10' Pond Lathe, complete.                                 | 1—24" Aurora Sliding Head Drill.                 |
| 1—12 Spindle Baush Radial, No. 3 Morse Taper.                   | 2—24" Snyder Sliding Head Drills.                |
| 15—30"x11' Single Purpose Heavy Duty Lathes.                    | 1—36" Snyder Sliding Head Drill.                 |
| 10—New 24"x11' Single Purpose Heavy Duty Lathes.                | 1—36" Aurora Sliding Head Drill.                 |
| 1—New No. 29 Oesterlein Univ. Miller.                           | 1—Rockford 6-Spindle Multiple Drill.             |
| 2—New No. 35 Oesterlein Universal Millers.                      | 1—36x14' Triple Grd. Fifield Lathe.              |
| 1—24"x16' Fish Lathe.   | 1—64x64x10' Pond Planer with 2 hds.              |
| 1—36"x14' Fitchburg Lathe.                                      | 1—62x16 Pond Lathe.                              |
| 1—10' Bedford Crane.  | 1—Brown & Sharpe Universal Grinder 20"x72"       |
| 1—Briggs Miller type A, table 8"x32".                           | 1—52"x42"x13' Planer.                            |
|   | 1—3 1/2" American Plain Radial.                  |
|   | 1—36"x36"x12' Lincoln Planer.                    |
|   | 1—12"x72" Landis Plain Grinder.                  |
|   | 1—52"x48"x10' Pond Planer.                       |
|   | 1—3' Reed-Prentice Radial Drill.                 |
|   | 1—No. 13 Pratt & Whitney Multiple Spindle Drill. |

100 Other Tools in Stock

Guaranteed Exactly as Represented or Money Returned  
No Questions Asked

## Simmons Machine Company

Office and Warehouse, Albany, N. Y.

### OFFICES

1001 Singer Bldg.  
New York

128 Engineers Bldg.  
Cleveland

358 Ellicott Square  
Buffalo

## Used Tools Immediately Available

Two Cincinnati semi-automatic Lincoln type Millers, practically new, 14".

One Wm. D. Gang plain Radial Drill, 3½" arm.

One Reed Lathe, 24"x8'.

One Woodward & Powell Planer, 28"x8', two heads on the rail.

One Brown & Sharpe No. 6 Hand Screw Machine, complete.

One Cincinnati-Acme 1¼" Hand Screw Machine, friction head, complete.

One 30"x12' Pond Engine Lathe.

One Bath No. 2½ Universal Grinder, outfit C, new.

## Factory & Mill Supply Co.

137 Oliver St., Boston, Mass.

### New Boston Show Rooms

## W. H. J. Fitzgerald & Co.

30 Oliver St., Boston

1 Foote-Burt Company No. 23 Heavy Duty Drill, 20' swing, single belt drive, capacity ⅞" to 1¼", guaranteed good as new.

2 No. 2 Warner & Swasey Turret Screw Machines, plain head, automatic chuck, bar feed, hand longitudinal feed to cut-off, with power feed to hexagon turret.

2 No. 1 Warner & Swasey Turret Screw Machines, plain head, automatic chuck, bar feed, lever feed to cut-off only, automatic chuck capacity ⅞".

These machines are in A-1 condition.

### Six ¼ Inch Automatic Screw Machines

(Stehli Patent)

Each fitted with screw slotting attachment. Manufactured by Hartford Machine Screw Company. These machines adapted to the rapid production of all kinds of small screws, bushings, studs, etc. Condition, good as new.

# Cyril J. Bath & Co.

## Machinery Merchants Cleveland

Engaged in the conservation of essential materials and labor by the redistribution of idle machinery.

### Stock on Hand

#### BOLT CUTTERS AND TAPPER.

- 24" Detrick & H., with lead screws and gears, auto. head, very good condition.  
12" Acme, single head, dies and countershaft, good condition.  
12" Acme 4-spindle tapper, very good condition.

#### DRILLS.

- 20" Silver, plain, hd. fd., almost new.  
20" Cin' sl. hd., sq. tbl., p. f., excel.  
Bement hvy. drilling & coring; cap. to 20" holes; 8" spdl., 36" fd., 52" between housings; 1st class.  
4" Putnam radial, hvy., cone dr., belt fd., weight 13,000 lbs., good.  
6" Dreses univ. radial, rd. col., motor drive, weight 15000 lbs., very fine condition.

#### GEAR CUTTERS.

- 24" Fellows shaper, late model, complete, excellent.  
No. 3 Brown & S., 26x8x4 d. p., weight about 3200 lbs., fine shape, late model.  
36x16 Gould & Eberhardt, spur & pinion, heavy, horizontal cutting type, cap. to 24" d. p. in steel; good condition.  
No. 1 Farwell hobbing, late model, very good.

#### GRINDERS.

- P. & W. vertical surface, 14" cup wheel, 36x10 1/2" table, good.  
No. 3 B. & S. universal, belt feed, overhead countershaft, good.  
12" Bay State, round table surface, power feed, water guards.  
No. 75 Heald internal, complete, fine condition.  
No. 23 Landis plain, with new heads for crankshaft grinding, good condition.

#### LATHES.

- 16x8 Lodge & Shipley, d. b. g., 18" swing, q. c. g., c. r., excellent.  
24x11 Johnson, gear feed, c. r., h. s., complete, good.

#### MILLING MACHINES.

- No. 2 Hendey univ., sgl. pulley drive, all pr. fds., range, 28x10x18, excellent.  
No. 5 Ingersol, combined high power, knee type, production miller, range 59x17x16", vertical and horizontal spindle drive, rapid traverse, table top 22x72", motor driven, excellent condition.

#### PLANERS.

- 30x6 New Haven, old style, sgl. hd., sgl. web housings, tbl. 3" thick, good shape.  
34x36x14 Putnam, 2 rail heads, table 42" wide, 5" thick, housings 7" face, 36" deep; rail, 13" face, 12" deep at cutter, 7'6" long, first class condition, weight 27,000 lbs.

#### SCREW MACHINES AND AUTOMATICS.

- No. 6 Brown & Sharpe screw mch., cap. 1 1/2x10", good as new, full equipment.  
No. 6 B. & O. screw mch., auto. ck., w. f., pr. fds. to tur., cut-off slide, good.  
2x24" J. & L. automatic, chucking equipment and collet, reverse position, chk., pump, etc., belt feed, sliding geared head, fine condition.  
No. 32 and No. 33 New Britain automatic chucking machines, very good.

#### TURRET LATHES.

- 26" Davis, rapid revolution to turret, also carriage with swivel tool holder, 4 jaw universal chuck, good.  
49" Bullard gap, 36" max. dist. turret to chuck; 4-jaw 28" chuck, good.  
24" Gisholt, taper attachment, 5" hollow spindle, good condition.

#### MISCELLANEOUS.

- Keyseater, No. 2 Mitts & Merrill, full equipment, excellent.  
Keyseaters, No. 2 Baker, with equipment, good, (2).  
Indexing presses, special hydraulic to draw cartridge cases for 3" shells up to 18" long, good as new.  
Rack and pinion press, Waterbury Farrell, 25" stroke, 7500 lbs., good.  
No. 5 Williams & White bulldozer, 18" stroke, very good.  
No. 5 Cedar Rapids alligator shear, 10" blade, schrouded main gear drive, good as new.

Offices: 721 St. Clair Ave. N. E.

Ware-room: 1031 Front St.

One 24" Fellows Gear Shaper.  
 Two 36" Fellows Gear Shapers.  
 One 24" Whiton Gear Cutter, spur gears only.  
 One No. 400 1/4A Toledo Power Squaring Shear.  
 Two 5' Plain Bickford Radial Drills, arranged for motor drive.  
 One 2 5-16" Foster Hexagon Turret Lathe.  
 Two No. 12 Modern Grinding Machines.  
 One No. 472 Consolidated Double Crank Press with 4" Stroke.  
 One 252 Niagara Power Squaring Shears.  
 One No. 1 Newton Duplex Milling Machine.  
 One 40" King Boring Mill.  
 One 20"x10' Draper Lathe.

**M. J. Walsh Mchy. Co.,** 141 Sycamore St., Milwaukee, Wis.

## Immediate Delivery

### Milling Machines.

No. 1 B. & S. plain.  
 No. 1 1/2 Cincinnati plain, (2).  
 No. 25 Becker plain, (3).  
 No. 26 Becker plain.  
 No. 2 Becker plain.

No. 7 Becker-Lincoln (4).  
 No. 3 Garvin plain (2).  
 No. 4 1/2 Garvin plain (3).  
 No. 1 Brown & Sharpe univ.  
 No. 3 Garvin sgl. profiler.

### Lathes.

14x6 Hendey, q. c. g., taper att.  
 20x10 Roulsted standard.  
 18" Prentice g. h. turret.

13x5 Barnes No. 5.  
 No. 2 Garvin turret.  
 No. 1 Garvin turret.

### Drilling Machines.

No. 1 Avey 3-sp. high speed.  
 Allen 4-sp. high speed.  
 Dwight Slate 4-sp.  
 20" Hoefer 4-sp. gang.

No. 2 Quint 6-sp. turret.  
 20" Rockf'd, w. & l. d. c. motor (3).  
 G. R. 10-sp. multiple 3/4" cap.  
 28" Hamilton, slid. head.

### Miscellaneous.

Blower, No. 00 Sturtevant.  
 Blower, No. 2 G. C., pressure.  
 Buffers, No. 22 Bridgeport (4).  
 Exhaust fan, 45 in. Sturtevant.  
 Gas furnace, No. 4 Garvin.  
 Grinders, Hisey-Wolf, type FD6.  
 Magnetic separator, Dings.

Press, No. 3 Consolidated.  
 Press, No. 3 R. & K.  
 Punch presses, P-3 Ferracute (2).  
 Punch press P-5 Ferracute.  
 Screw slotter, Garvin, rapid.  
 Tumbling barrels, Baird, (3).  
 Wire straighteners, 3/16 Shuster.

*Prices and Details on Application*

**McMullen Machinery Company**

"Everything in Shop Equipment"

Grand Rapids, Michigan

# High Duty Machine Tools

## Millers

- 1—No. 2 Hendey Plain Miller, 26" feed; 7" cross; 18" vertical; 24x10½ working table; quick change feed gears, back geared; 1½" hollow spindle; in excellent condition.
- 1—No. 0 Bickett Vertical Miller and Profiler; slotted table 7x10; 2-speed drive; with base and one collect.

## Presses

- 1—No. 202-C Toledo Plain Overhanging Double Crank Press, bolster plate 30x42; opening of bed 33x27; width between uprights 36"; 2" stroke; weight 5700 lbs.
- 1—No. 18 Bliss open back Inclinable Press.

## Grinders

- 1—No. 2 Landis Universal Cylindrical Grinder; swings 16" dia., 32" long; weight 2500 lbs.; in every way like new.
- 1—No. 2 Grand Rapids Universal Tool Grinder.
- 1—Greenfield Universal Tool Grinder.

## Miscellaneous

- 1—No. 46 Beloit Alligator Shear; capacity 4x½" flat, 1" round; geared 7 to 1; weight 1300 lbs.
- 1—No. 2-AA Hoover "Ever-Ready" Tempering Furnace.
- 1—No. 9 Greenerd Arbor Press.
- 1—100 lb. Standard No. 1 Automatic Trip Hammer.
- 1—18x18"x4" Fitchburg Planer.
- 1—30" P. S. & W. Squaring Shear.
- 1—6" Bleser No. 3 Precision Lathe.
- 1—1½" Dawson & Goodwin Hand Screw Machine.

## Heavy Duty Drills

- 1—32" Hamilton Drill Press; b. g., p. f., sliding head.
- 1—24" Hoefer Drill Press; b. g., p. f., sliding head.

**Stock includes seven hundred machines.**

**We solicit opportunity to submit best offerings in the way of any equipment required.**

**Wayne Machinery Company**  
**Fort Wayne, Indiana**

# ReMANUFACTURED - (ORIGINATED BY US) - MACHINE TOOLS

FOR QUICK SHIPMENT

---

**At Chicago—The Great Machinery Center**

---

## BORING MILLS

- 1—34" Bullard Vertical.
- 1—40" Rogers & Hemphill Vertical.
- 1—62" Niles.
- 1—78" Pond Vertical.

## MILLERS

- 1—No. 18 Kempsmith Plain.
- 5—No. 14 Garvin Plain.
- 2—No. 32 Kempsmith Lincoln Type.
- 1—Hilles & Jones Vertical.
- 1—No. 4 Newton Duplex.

## TURRETS

- 1—21" Gisholt.
- 2—24" Steinle.

## PLANERS

- 1—41"x44"x10' Niles, 2 heads.
- 1—38"x38"x 8' Niles, 2 heads.
- 1—36"x36"x10' Whitcomb, 2 heads.
- 1—26"x26"x 6' American.
- 1—24"x24"x 6' Gray.
- 2—24"x24"x 8' Gray.
- 1—24"x24"x 4' Gray.
- 1—22"x22"x 6' American.
- 1—22"x22"x 6' Gray.

## DRILLING MACHINES

- 1—3' American.
- 1—5' Niles Full Universal Radial.
- 1—6' Dreses-Mueller Univ. Radial.
- 1—12 spdl. Moline Rail Drill.

## ENGINE LATHES

- 1—Niles Cylinder Lathe, 41" Swing, 8' centers.
- 1—No. 3 Pond Double End Axle.
- 1—36"x20' New Haven, C. R.
- 3—28"x14' Lodge & Shipley, motor drive.
- 1—24"x14' Blaisdell.
- 1—20"x 8' Whitcomb-Blaisdell.

## PUNCHES & SHEARS, ETC.

- 1—96" Robinson Power Brake.
- 1—No. 2 Bethlehem Slitting Shear.
- 1—No. 1-B New Doty Punch and Shear.
- 1—No. 2 Massillon Punch.
- 1—No. 1 Frech Punch.
- 1—No. 2 Frech Punch.
- 1—No. 43 Toledo Punch.
- 1—No. 4-A Willard Inclinal.
- 1—No. 3 Robinson Inclinal.
- 1—No. 4-P American Can Punch.
- 1—No. 5 V. & O. Geared Incl.

## GEAR CUTTERS

- 2—8" Gleason Bevel Generators.
- 1—24" Fellows Shaper.
- 1—No. 1—28" Schuchardt & Schutte Hobber.
- 1—No. 2—36" Schuchardt & Schutte Hobber.
- 1—36" Gould & E. Gear Cutter.
- 1—36" Fellows Shaper
- 1—36" Gleason Spur & Bevel Former.

*Write for our Green List describing these and many others*

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**HILL, CLARKE & CO. OF CHICAGO**

625 W. WASHINGTON BLVD., CHICAGO, ILL.



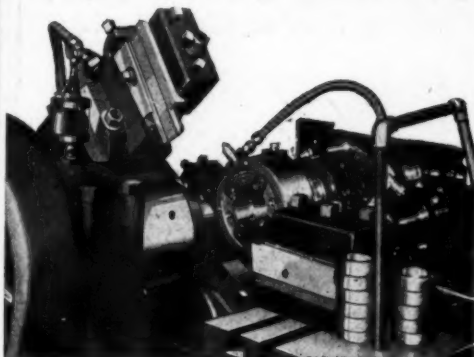
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## Modern Self-Opening Dies



Showing one of an installation of twenty-two (22) MODERN Self-Opening Dies—on Gridley Automatics—threading shell parts in one of the largest shops in Canada—MODERN Dies made good where others failed.

No matter what your threading operations, MODERN Self-Opening Dies will give best results. As efficient on the large diameters as on the small.

*Bulletin No. 32 upon request*

## Modern Tool Company

Main Office and Works, 2nd and Peach Sts.,  
ERIE, PENNA.

# Nesting Tote Boxes

Strong, Durable, Close-Nesting



Made of one piece except the handles, which are of heavier stock folded double and welded on. Sides are folded over the ends formed by the up-turned bottom, and all electrically welded. Top edges are turned over to form a hem, the side hem being continuous and running under the end hem, giving a quadruple thickness where strain is greatest. Furnished liquid-tight if desired.

*Free Bulletin 1224 describes fully*

**The New Britain Machine Company**

**"Shop Furniture  
Originators"**



**New Britain,  
Conn. U.S.A.**

